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ABSTRACT

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CONGRESSIONAL REORGANIZATION OF THE ARMY AIR SERVICE
1917-1920

David A. Tretler

Army aviation was at a crossroads immediately after World War I. Congress could either allow the Army Air Service to revert to its prewar status as a subdivision within the Army Signal Corps, make permanent its wartime status as a separate combat branch of the Army, or establish it as part of an independent air department. When Army reorganization hearings opened in both houses of Congress after the Armistice, a proposal for a separate air department was one of the bills under consideration. The dramatically increased size of the Army's and Navy's aviation branches, the phenomenal technological advances in the science of aeronautics brought about by the war, and the airplane's potential for both military and commercial operations argued strongly in favor of a separate air department. But the air department bills were defeated, and, when the Army Reorganization Act passed in June 1920, the Air Service was retained as an integral combat branch of the Army. As a result, military aviation was to suffer from the apathy of Army officials throughout the early interwar years.

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OPPORTUNITY MISSED: CONGRESSIONAL REORGANIZATION OF THE ARMY AIR SERVICE 1917-1920

by

DAVID ALLAN TRETLER

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INTRODUCTION

Between the two world wars, one of the major controversies within the American military establishment centered on the status of military aviation. As soon as it realized in 1907 that the airplane had military applications, the Army adopted aviation as an integral part of its forces. By the end of the First World War, however, many aviation enthusiasts felt that the Army Air Service had outgrown its position as a subordinate branch of the Army. In 1947, thirty-one years of intensive effort by aviation officers and their supporters were finally capped by the creation of the United States Air Force as an equal partner of the Army and Navy in the new Department of Defense. Aviation officials were finally given the freedom to plan their own future, and the Air Force was given equal priority with the Army and Navy for the resources of the country. This important reorganization of the American military establishment need not have taken as long as it did. There was at least one excellent opportunity for creating an independent aviation department long before 1947. Immediately after World War I, Congress and the War Department launched a drive to completely reorganize the Army. Any thorough reorganization of the Army naturally opened the question of the proper status for the Army Air Service, and the rapid development of aviation during the war argued

strongly in favor of upgrading military aviation's status.

When war broke out in the summer of 1914, aircraft were still extremely primitive. After all, it was only eleven years earlier that the Wright brothers had made their historic flight at Kitty Hawk. Nevertheless, aviation played an important role in the war from the beginning. As the German armies swept through Belgium and northern France, their aircraft provided advance reconnaissance. British aerial reconnaissance first discovered the true size of the German armies advancing through Belgium, and made possible the timely retreat of the British Expeditionary Force from Mons. And it was a French pilot who observed General Alexander von Kluck wheeling his German army to the southeast in front of Paris, thus opening the way for the successful French counterblow at the battle of the Marne. Propelled by the combatants' constant struggle to gain any advantage, aviation experienced a tremendous accelleration of technological and tactical development. Development proceeded so rapidly during the war that if aircraft designs were not constantly improved they were outdated in a few months, and this dizzying pace continued unabated throughout the war.

Although Americans had first solved the problem of heavier than air flight, aviation development in the United States lagged far behind the European powers until the U.S. entered the war. The U.S. did not have access to the tremendous advances being made in aviation during the early years of the war. After entering the war, however, the United States set out with a tremendous burst of activity to catch up. During

the nineteen months the U.S. was in the war, the Army's air arm grew astronomically and sometimes uncontrollably under a hastily improvised organization. By the Armistice it was clear that an aviation force considerably larger and more potent than its prewar predecessor had to be part of the United States' postwar military establishment.

At issue in the postwar reorganization of the Army was whether the country's air forces should be kept within the Army or be made part of an entirely new executive department responsible for all of the national aviation programs. Military aviation had clearly proven its value during the war. The increases in aircraft size, speed, carrying capacity, and endurance also convinced many people that the airplane had tremendous commercial potential as well. Aviation seemed to many to be on the threshold of an almost unlimited future, and the period immediately after the war seemed to be the perfect time to establish an independent department of aeronautics. But the men who wanted a larger role for aviation than just an auxiliary to the Army were still a minority. When the Army Reorganization Act was completed in June 1920, the Air Service remained an integral part of the Army.

Too often the significance of the 1920 Army Reorganization Act with respect to the development of military aviation between the wars is overlooked in favor of the more spectacular events surrounding the Billy Mitchell controversies of the mid-1920's. The Air Service provisions of the 1920 legislation served as a powerful precedent, however, for subsequent

attempts to find the proper position for aviation within the military establishment. The Army's prewar Aviation Section had been too small to have any significance for postwar planners. The Air Service created by the 1920 act was the United States' first full-scale peacetime air force. Once established it became the point of departure and the standard for future reconsiderations of the proper organization of the nation's air forces. And given the power of tradition in the military, it would not be easy to change the structure created in 1920. The precedent established in 1920 was strong enough, in fact, to remain in force until 1947.

Retaining the Air Service as an integral part of the Army had important consequences throughout the interwar years. The most obvious was that the development of aviation in the United States, especially military aviation, was retarded. Prior to 1938, when President Roosevelt finally began to upgrade the Army Air Corps in response to the mounting threat of war, the United States would have had no air force to speak of if thrust suddenly into war. Commercial aviation suffered also. Immediately after the war there was virtually no market for commercial aviation or new aircraft. Aviation was too new. A government agency which could coordinate distribution of limited government funds, establish rules for air navigation and safety standards, promote landing fields, lay out air routes, provide mapping and weather services, disseminate information, provide expensive experimental facilities, and lobby effectively with Congress on

behalf of aviation interests would have given considerable impetus to the development of aviation. Although it could only be measured in terms of what might have been, both the country and the Air Service paid a large price for Congress' caution in 1920.

CHAPTER I

YEARS OF NEGLECT, 1907-1917

From the beginning the War Department adopted a cautious approach to aviation. When Wilbur and Orville Wright offered in 1905 to construct an airplane for Army use, the Army's Board of Ordnance and Fortification declined their offer and told the Wrights to come back when they had produced a machine which "by actual operation demonstrates its capability to maintain horizontal flight."[1] By 1907, however, President Theodore Roosevelt and Secretary of War William Howard Taft were sufficiently interested to direct the Chief Signal Officer of the Army, Brigadier General James Allen, to form a Aeronautical Division within the Signal Corps. Thus was born on August 1, 1907, the first of a series of Army aviation branches which eventually would culminate in the United States Air Force. Almost immediately the staff of the new Aeronautical Division drew up specifications for a proposed military aircraft and requested bids from interested manufacturers. Not surprisingly, the Wright brothers were awarded the contract, and in 1909 they provided the Army with its first airplane.[2]

During its first years the Aeronautical Division grew slowly. Consisting initially of only one captain and two enlisted men, the Aeronautical Division still had just one lieutenant and nine enlisted men on aviation duty in 1910.

By mid-1913, it only had grown to ten aviators and fifteen aircraft.[3] The chief cause of this slow growth was Congress' lack of interest and reluctance to appropriate funds for the Aeronautical Division. Although the division received strong early support from the Secretary of War, as evidenced by the $500,000 appropriation the War Department requested for aviation in 1908, Congress was less than enthusiastic. The death of Lt. Thomas Selfridge in the crash of an early test flight of the first Wright plane blunted the enthusiasm of many Congressmen. Beyond that, funds for implementing the Army reform program initiated by former Secretary of War Elihu Root demanded a much higher priority than funds for aviation.[4] No money was appropriated for the Aeronautical Division between 1908 and 1911; the only money that was made available came from small surpluses in the accounts of other branches of the War Department. Finally, in 1911 Congress approved the first regular appropriation for military aviation; included in the Signal Corps' appropriation for fiscal year 1912 was $125,000 for aviation expenditures. This was followed up the next year by a $100,000 grant for 1913.[5] Despite their importance as precedent, however, these were meagre appropriations. In 1908, $200,000 had been required just for contracting and procuring the Army's first aircraft. In 1913 the United States ranked fourteenth among the nations of the world for aviation appropriations. Mexico, ranked thirteenth, appropriated $400,000 for 1913 alone, while the U.S. had appropriated only $225,000 for the entire period

from 1907-1913. France, the world leader in aeronautical expenditures, appropriated $7,400,000 for 1913.

Lack of money was not the only obstacle to the growth of the Aeronautical Division. Reliance by the War Department on temporarily assigned personnel to staff the Aeronautical Division made it impossible for the division to enjoy the continuity and stability which comes from having a permanent core of experienced aviators and staff officers. For years the Army had manned its auxiliary and staff departments with officers "detailed" from the combat branches of the Army. No officer so detailed, however, could remain away from his permanent branch longer than four years. When the Aeronautical Division was created, the Army turned logically to this procedure to provide the small number of officers needed by the new division. The problem with the detail system as it applied to the Aeronautical Division was that flying was a skill that required years to master. After four years, an aviator was just beginning to acquire valuable experience and confidence, but at this point he would be reassigned to his permanent branch. The Aeronautical Division's effort to build up its experienced manpower often resembled a case of two steps forward and one step back, and the effects of the detail system sometimes approached the ridiculous. As part of their contract in 1908, the Wrights agreed to train two Army officers as pilots, and the Army detailed Lieutenants Frank Lahm of the Cavalry and Frederic Humphreys of the Engineers to receive this training. No sooner was their training completed,

however, than both were reassigned to their permanent branches, and the Army was left with no pilots at all for its airplane. By the end of 1915, the Aeronautical Division had trained forty-three men as aviators; of these, fourteen had been reassigned and another six killed, leaving only thirteen trained aviators on duty.[7]

A third factor retarding the early growth of the Aeronautical Division was the fragility of its aircraft. Easily destroyed in accidents and quickly worn out even when not abused, the few airplanes purchased for the Aeronautical Division seldom lasted long enough to allow the accumulation of an airfleet of any significant size. By April 1916, eleven of the fifty-nine aircraft which had been purchased had been destroyed, twenty-one had been condemned because they were worn out, and one, the Army's first plane, had been given to the Smithsonian Institute.[8]

Despite the many obstacles, the Aeronautical Division was well enough established by 1913 so that Congress undertook providing it with legislative sanction and structure. Congress' first attempt at regulating the Aeronautical Division was contained in the Army Appropriation Bill for 1914. After alloting the Signal Corps $125,000 for aviation expenditures, Congress specified that no more than thirty officers could be assigned to aviation service. In recognition of the special hazard involved in flying, Congress provided that all officers detailed for aviation duty who were actually flyers of heavier than air craft would receive a thirty-five

per cent increase in their normal pay. Furthermore, previous legislation nothwithstanding, nothing would "limit the tour of detail to aviation duty of officers below the grade of lieutenant colonel."[9] This last provision, relieving the Aeronautical Division of the onerous effects of the detail system, was extremely beneficial, as was the institution of flight pay. But in limiting the Aeronautical Division to only thirty aviators, Congress unknowingly laid the foundation for the deficiencies in the Army's aviation branch that would become so apparent when the United States entered the First World War.

While Congress debated the 1914 Army Appropriation Bill, Representative James Hay (D) of Virginia, the outgoing chairman of the House Committee on Military Affairs, introduced another proposal for organizing the Army's air service. In light of the primitive state and small size of the Aeronautical Division at that time, Hay's proposal was ambitious. His bill called for creation of an Aviation Corps as part of the line of the Army and directly subordinate to the Chief of Staff. This would give the Aviation Corps enormously increased prestige and status. As part of the line, the Aviation Corps technically would be equal to the other line branches, which were the traditional combat branches of the Army, the Infantry, Cavalry, Field Artillery and the Engineers. The Aviation Corps would be responsible for operating all military aircraft, but the Quartermaster Corps would remain responsible for procuring and disbursing all equipment and supplies used

by the corps, including aircraft. The strength of the corps would be one major to serve as commandant, two captains, not more than thirty first lieutenants detailed from other branches of the Army, and whatever number of enlisted men the Secretary of War deemed necessary.[10]

Since Hay introduced his bill only a month before the end of the 62nd Congress, it was impossible for the House Military Affairs Committee to take any action prior to the recess. Hay had anticipated this, and explained that he introduced the bill when he did to generate discussion and new ideas so that the 63rd Congress could take prompt action on the air service question.[11] On May 16, 1913, Hay introduced the same bill in the 63rd Congress, and the Military Affairs Committee immediately began extensive hearings on his proposals.[12] It quickly became apparent that virtually the entire War Department Staff, the Army, and even the members of the Aeronautical Division, were opposed to the changes proposed by Hay. The Assistant Secretary of War Henry Breckenridge explained the War Department's position in a letter to Brigadier General George P. Scriven, the Chief Signal Officer. According to Breckenridge, the War Department regarded aviation as "merely an added means of communication, observation and reconaissance ... which ... ought to be coordinated with and subordinate to the general service of information and not erected into an independent and uncoordinated service."[13] Within the Aeronautical Division, the

more prominent officers, including General Scriven, Captain Benjamin D. Foulois, Captain William Mitchell, Lt. Henry H. Arnold and Lt. Thomas D. Milling, agreed that the Hay Bill was premature. While some of these officers suggested that someday military aviation could stand on its own, they all agreed that for the immediate future military aviation was not well enough developed to be separated from the Signal Corps. As Foulois would explain later in his memoirs, in 1913 the Aeronautical Division had only a handful of inexperienced pilots, no logistical organization and no concept of airpower employment.[14] The consensus was that the Aeronautical Division still needed the technical expertise and administrative structure of the Signal Corps to survive.

Deliberation on the Hay bill continued into the early spring of 1914, and what is most surprising is that in the face of such overwhelming opposition the bill was not killed outright. Apparently, the members of the House Military Affairs Committee felt that further legislative regulation for the Army's air arm was necessary. Thus, amended to the point of being unrecognizable, Hay's bill passed both the House and Senate as "An Act to increase the efficiency of the aviation service of the Army ... ," and was signed into law on July 18, 1914.[15]

What this legislation established was not significantly different from what already existed; the effect of the act was simply to give the force of law to what had previously existed merely on the strength of War Department orders. The

act did have beneficial aspects, however. An Aviation Section was created within the Signal Corps charged with operating all military aircraft and training the officers and enlisted men assigned for aviation duty. The strength of the Aviation Section was increased one hundred per cent to sixty aviation officers and two hundred and sixty enlisted men. Aeronautical ratings awarded on the basis of specific criteria and regular examinations were established. And aviators were classified according to their ability and flying experience, and given increases in rank and pay commensurate with their standing.[16]

There were also serious deficiencies in the aviation service act which seemed in the balance to outweigh the benefits. These deficiencies aggravated the existing problem of using temporary personnel to staff the Aviation section and thus acted to limit the section's growth. The act continueduse of the detail system to staff the Aviation Section. Lower ranking officers could be redetailed to the Aviation Section without restriction, but captains and above would be forced to leave the Aviation Section once they had been away from their permanent branch four years. This provision was a regression from the stipulation in the 1914 Army Appropriation Act that officers below the rank of lieutenant colonel could be detailed indefinitely to the Aeronautical Division. In the future, no officer could be detailed as an aviation officer until he had served as an aviation student, and aviation students had to be selected from among the unmarried lieutenants under thirty. Further, provisions for increased

pay and rank for aviation officers were nullified for officers whose permanent commissioned rank was higher than first lieutenant.[17] The combined effect of these stipulations would tend to produce an Aviation Section made up predominantly of young lieutenants with only one or two senior officers in command. And these senior officers would almost assuredly not be flying officers. Clearly, the new Aviation section would continue to have problems building a core of mature experienced aviators to provide leadership for its future development.

Shortly after this legislation was enacted, war erupted in Europe. Although the United States declared herself neutral, and Americans tried to go about their business as though the war did not exist, it was difficult to see how the United States could avoid being affected by the war. In fact, at the same time President Wilson was urging Americans to observe neutrality "in fact as well as in name", he warned that the hostilities in Europe involved the United States almost as though she were a belligerent herself. Soon, despite their avowed policy of strictly impartial neutrality, Americans found that their natural attachments and sentiments led them to favor the Allied side over the Germans. As Americans' sympathy with the Allied cause mounted steadily, so too did America's indirect involvement in the war through the medium of increased trade, financial assistance and shipments of arms for the Allies. Then, in February 1915, American involvement became more direct. Germany opened her initial

submarine campaign in the waters around Great Britain and Ireland, and suddenly American lives and property were subject to the full dangers of war. President Wilson immediately informed the Germans that the United States would hold Germany accountable for the deaths of any United States citizens or damage to American property. Pressure from the United States forced Germany to curtail her submarine activities in August 1915; but by this time Americans had been killed by German submarines and there was a definite strain in U.S.-German relations.[18] Responsible people in the United States were beginning to suspect that the U.S. would soon be drawn into the war against Germany, and many Americans were becoming concerned about the Army's capability and readiness.

While the United States kept moving closer to war throughout 1915 and 1916, the Aviation Section was actually becoming less prepared to enter the war. Primarily, this was due to the staggering development of aviation in Europe forced by the war. In August 1914, all the European powers already possessed considerably larger air forces than the United States, though their technical superiority was negligible. Aircraft the world over were still primitive, and concepts for employing airpower were limited to reconnaissance and adjustment of artillery fire. By the end of 1916, however, not only had the size of European air forces increased astronomically, but the Europeans had improved aircraft performance dramatically. While the aircraft of 1914 had been fortunate if they could reach a speed of 80-90 mph and

a ceiling of 13,000 feet, by the end of 1916 the British were ready to unveil their new SE-5A aircraft, boasting a top speed of 132 mph and a maximum ceiling of 20,000 feet. Sharp increases in the size, power, speed, durability, maneuverability and carrying capacity of aircraft, quickly led to tactical innovations, as airmen naturally found new ways to take advantage of the improved performance of their machines. By 1917 the role of the aircraft had expanded from the passive task of observation to include basic offensive capabilities such as air to air combat, bombing, and strafing. And as each newly-discovered capability was exploited more widely, the pilots developed a whole array of specialized tactics.[19]

In the United States, meanwhile, the Aviation Section was marking time. The European powers maintained a tight censorship on reports of aviation developments in their countries. American airmen received little clear information about the staggering developments in technology and tactics occurring in Europe.[20] The only effort in the United States to upgrade the aviation program during the early war years was the creation of the National Advisory Committee for Aeronautics (NACA) in March 1915. This committee, created by a rider to the 1916 Naval Appropriation Bill, was composed of twelve members appointed by the President. There would be two members each from the Aviation Section and the Office of Naval Aeronautics, one each from the Smithsonian Institute, U.S. Weather Bureau, and Bureau of Standards, and five ad-

ditional members, civilian or military, knowledgeable in the needs of aeronautical science. NACA was established to "supervise and direct the scientific study of the problems of flight ... and ... determine the problems which should be experimentally attacked," and the committee was to submit an annual report to Congress through the President.[21] NACA was outside the chain of command for the Aviation Section, and, except for the two members they had in common, there was no formal connection between the committee and the Aviation Section. NACA was created to fill an important need which the Aviation Section could not meet adequately because of its small size. Giving NACA a status independent of the Aviation Section, however, undercut the section's policy-making authority and blurred lines of responsibility. Unfortunately, NACA was only the first of a series of advisory and joint committees created ostensibly to help unify the management of the United States' aviation program but which neither were given the authority to direct aviation activities nor placed under the authority of those who were responsible for aviation affairs.

President Wilson took an important step toward readying the country's military forces for possible involvement in the European war when, in July 1915, he ordered the Secretaries of War and Navy to prepare legislation for upgrading the national security posture. Wilson in all likelihood succumbed to pressure from the "preparedness" campaign which was steadily building strength under the leadership of several

men quite prominent in government and military circles. The Military Affairs Committees in the House and Senate used the proposals drawn up by the War and Navy Departments to prepare committee bills for revamping the Army that were introduced in March 1916.[22]

Any attempt to restructure the Army would have to deal with the status of the Aviation Section, and the section was coming under increased criticism resulting from the younger aviation officers' dissatisfaction with their superiors' policies and lack of aviation experience. Discontent had first surfaced in early 1913 when, in response to a sharp increase in fatal flying accidents, the aviation officers at the Texas City, Texas airfield sent a round-robin petition directly to the Chief of Staff. These officers were convinced that the increase in accidents was primarily due to their superiors' lack of sensitivity to the limited capabilities and reliability of aviation equipment and to the promulgation of policies detrimental to flight safety. Going over the heads of the Chief of the Aeronautical Division and the Chief Signal Officer, the Texas City men demanded changes in the top command positions of the Aeronautical Division, and even specified who the replacements should be. Their objective was to get qualified aviators in command positions, men who had experienced first hand the problems of aviation and could appreciate the impact their policies would have on the units in the field.[23] General Allen, who was still the Chief Signal Officer at

the time, was able to defuse this situation quietly. But his comment that the younger aviation officers were "deficient in the discipline and the proper knowledge of the customs of the service and the duties of an officer" characterized a growing attitude among the Army's high command.[24]

In 1916 the aviators' discontent found another outlet through Senator Joseph T. Robinson (D) of Arkansas. Aware of the mounting dissatisfaction, Robinson, in January 1916, charged the War Department with mismanagement of the Aviation Section, and introduced a resolution calling for the formation of a Congressional investigative committee. Nothing came of Robinson's resolution, but again the Chief Signal Officer, now General George P. Scriven, set the tone for the War Department's reaction. In response to a letter from the Adjutant General, Scrivan explained that any friction within the Aviation Section was the result of that Section being manned by "a personnel of aviation officers ... unbalanced as to grades, young in years and in service, and deficient in discipline and the proper knowledge of the customs of the service and the duties of an officer." General Scriven attributed the motivation for their "unmilitary, insubordinate and disloyal" behavior to an ambition for an independent organization for aviation.[25] This controversy between the young officers and the Army high command would be a recurring feature of the continuing debate over the status of the air service.

On March 28, 1916, only a few weeks after the new Army legislation was introduced, Representative Charles Lieb (D) of Indiana offered a radical solution to the problem of growing conflict between the Aviation Section and the rest of the Army. Lieb's bill called for a new executive department known as the Department of Aviation to "supervise and promote all matters pertainint to aviation in its relation to the Army and Navy," and to develop the science of flying in the public interest. The new department would be headed by a Secretary of Aviation having salary and tenure comparable to the heads of the cabinet departments. To the Department of Aviation would be transferred the Aviation Section of the Signal Corps and the Office of Naval Aeronautics and all that pertained to them. Additionally, the President was granted authority to transfer to the new department all or part of any other government agency which became involved in aviation in the future. No strength was specified for the new department; however, all officers and enlisted men currently serving with the Aviation Section or the Office of Naval Aeronautics were to be assigned to the Department of Aviation and remain so assigned until age thirty, at which time they would revert to their permanent branches. The operations of the new department would be divided among eight subordinate divisions - Land Operations, Naval Aeronautics, Signal Corps, Construction, Aeronautic Research, Motor Power, Learning and Personnel and Accounts. To further assist him, the Secretary of Aviation could form an advisory

commission of not more than seven members, and the existing National Advisory Committee for Aeronautics would be abolished.[26]

Lieb's bill was an extremely ambitious piece of legislation, and yet, it accurately anticipated the problems that would plague aviation officials during the war and after. Unfortunately, the condition and size of the United States' military aviation establishment did not even begin to justify the radical changes Lieb was proposing, and so the legislators can be forgiven if they failed to seize the opportunity his bill offered to establish an aviation department. Lieb's bill died in committee the same day it was introduced, but in retrospect it is apparent that America's aviation program would have been far more successful during the war had consolidated and centralized control of military aviation been instituted a year before the United States entered the war.

Another series of events with important implications not only for the future of the air service, but for the Army as a whole began March 9, 1916, when the rebel Mexican leader, Pancho Villa, raided Columbus, New Mexico. Conditions along the U.S.-Mexican border had been deterioriating steadily for several years, as Mexican guerillas and bandits took advantage of the breakdown of authority in Mexico to raid towns on both sides of the border. A particularly brutal raid had taken place in January 1916 at Santa Ysabel, and when Villa, one of the aspirants for power in Mexico, terrorized

Columbus, the War Department immediately dispatched General John J. Pershing along with a few thousand regular troops to pursue and punish Villa. Government leaders in the United States were concerned that Pershing's foray into Mexico after Villa might easily lead to more extensive hostilities with Mexican government forces. As a precaution, Secretary of War Newton D. Baker tried to recruit the regular army up to its full authorized strength, but this met with little response. National Guard units from Texas, New Mexico and Arizona were called out for police duty along the border, but the meagerness of U.S. forces available for action against Mexico vividly highlighted the inadequacy of America's military preparedness and helped accelerate passage of the new Army legislation introduced in March.[27]

When General Pershing crossed into Mexico in pursuit of Villa, he took with him the First Aero Squaeron under the command of Captain Benny Foulois. This squadron, equipped with eight Curtiss JN-3 aircraft, was the sum total of America's operational flying forces.[28] By the end of the first month of operations in Mexico, six of the eight planes had been destroyed and Foulois was forced to pull the squadron back to Columbus. Once in Mexico the airplanes had rapidly deteriorated as the squadron found it impossible to secure sufficient spare parts and adequate maintenance over their extended supply line. This, coupled with the pilot's unfamiliarity with the rough Mexican terrain, led to frequent accidents which took a steady toll on the aircraft. Even

those aircraft that remained in flyable condition were unable to carry out their assigned missions because they were too underpowered to climb over the mountains that covered that portion of Mexico. When the squadron returned to Columbus, eight Curtiss R-2 aircraft, a new plane with almost double the horsepower of the JN-3, were supposed to be waiting. What Foulois and his men found, however, were four JN-4's, a barely improved version of the JN-3. Foulois immediately condemned these aircraft and burned the two remaining JN-3's he brought back from Mexico. When the R-2's finally did arrive, they were so poorly constructed that they virtually had to be rebuilt in Columbus. Even then they were good only for carrying mail and despatches between Pershing's advanced base and Columbus. This was the extent of the squadron's contribution during the remainder of Pershing's Punitive Expedition.[29] The experience of the First Aero Squadron in Mexico, coming as it did on the eve of America's entry into the European War, was dismally accurate evidence of the limited capabilities of the U.S. military aviation. The inadequacy of the Aviation Section contrasted starkly with the advanced development of aviation in Europe.

Against the background of the abominable performance of the First Aero Squadron in Mexico, the increasing agitation within the Aviation Section for more autonomy and the radical proposals outlined in the Lieb bill, it would not be unreasonable to expect that significant restructuring of the Army's air arm would be included in the new national security

legislation being debated by Congress. This was not the case. The Aviation Section originally suggested that the War Department proposal include an Aviation Section of eighteen squadrons, requiring approximately 500 aircraft, 368 officers, and 2360 enlisted men. When the War Department submitted its draft legislation to Congress, this request had been slashed by nearly two thirds.[30] The aviation provisions that were finally included when the National Defense Act was completed June 3, 1916, did not differ significantly from the War Department's proposal. The act authorized one hundred and forty-eight officers - one colonel, one lieutenant colonel, eight majors, twenty-four captains and one hundred and fourteen first lieutenants - and specified that The Aviation Section remain a division within the Signal Corps. Aviation officers would continue to be detailed from other branches of the Army for four year tours. There would be no restrictions, however, against immediately redetailing any aviation officer to the Aviation Section as soon as his current tour had expired. The stipulation of the 1914 aviation service bill that only unmarried lieutenants under thirty could be assigned to the Aviation Section was repealed. There were no changes to the aeronautical ratings and attendant qualifications and entitlements already in force except to raise the maximum permanent rank at which an aviation officer was still entitled to the prescribed increases in pay and grade to captain.[31]

This was the air service with which the United States entered World War I. Except for a doubling of strength, which was inconsequential considering the size of European air forces, and slightly improved manning provisions, the Aviation Section established by the National Defense Act of 1916 hardly differed from that created in 1914. The American experience during the war would reveal that this Aviation Section was completely outdated and pitifully undersized.

After the poor showing of the First Aero Squadron in Mexico, the government made some belated efforts in addition to the National Defense Act to improve the capabilities of the Aviation Section. For fiscal years 1915 and 1916, Congress had appropriated only $250,000 and $300,000 respectively.[32] Although these amounts were double previous years' appropriations, they were still far below expenditures in other countries. In March 1916, however, after Foulois' men had demonstrated clearly that the Aviation Section needed new aircraft, Congress approved a deficiency appropriation for 1916 of $500,000. Far and away the largest aviation appropriation yet made in the United States, this was only the beginning. After learning the full extent of the aviation debacle in Mexico, Secretary Baker announced his intention to "reorganize the entire Aviation Section," and he requested an appropriation for 1917 of $13,000,000 to put his reorganization into effect.[33] The money was provided in full by Congress' allocation of $13,281,666

to the Aviation Section in the Army Appropriation Bill for 1917. The reorganization of "the entire Aviation Section" promised by Secretary Baker was limited, however, to appointing Colonel George O. Squier as the new chief of the Aviation Section. Colonel Squier was an internationally prominent electrical engineer who was also well known in aviation circles. He had spent the previous four years as the military attache in London and was certainly as familiar as any American military man with the development of the European war. Even so it is difficult to see how his appointment to head the Aviation Section constituted a reorganization.[34]

This last minute rush to improve U.S. aviation capabilities was a case of too little, too late. War with Germany came before any of the appropriations could be translated into additional men and airplanes. In January 1917 Germany reinstituted unrestricted submarine warfare, and the United States countered by quickly severing diplomatic relations. A flurry of attacks against American ships coupled with the impact of the Zimmerman Note in February and the Russian Revolution in March persuaded President Wilson to ask Congress for a declaration of war in early April.[35] Thus, as of April 6, 1917, the Aviation Section found itself involved in a war for which it was totally unprepared. Meagre appropriations, obsolete and limited equipment, and a ridiculously small body of aviators had prevented the

Aviation Section from accumulating any large-scale experience or developing an airpower doctrine.[36] The months ahead were to demonstrate graphically just how far behind the Europeans the Americans were in the field of military aviation.

NOTES: CHAPTER I

1. Irving B. Holley, Ideas and Weapons: Exploitation of the Aerial Weapon by the United States During World War I, 26.

2. Ibid., pp. 26-27; R. Earl McClendon, The Question of Autonomy for the United States Air Arm, 1902-1957, I, 1.

3. Arthur Sweetser, The American Air Service, 10-15.

4. Holley, Ideas and Weapons, 27-28.

5. The Statutes at Large of the United States of America, XXXVI, 1038; and Vol. XXXVII, 571; Sweetser, American Air Service, 11.

6. Sweetser, American Air Service, 8-11; Holley, Ideas and Weapons, 27-29.

7. Benjamin D. Foulis, From the Wright Brothers to the Astronauts: The Memoirs of Major General Benjamin Foulis, 66-69; Sweetser, American Air Service, 19-20.

8. Sweetser, American Air Service, 37.

9. Statutes at Large, XXXVII, 705.

10. "Bills Before Congress," The Army and Navy Journal, L (1913), 744.

11. Congressional Record, 62nd Congress, 3rd Session (1912-1913), Vol. 40, 3025; "Congress and the Navy Bill," The Army and Navy Journal, L (1913), 801.

12. Congressional Record, 63rd Congress, 1st Session (1913) Vol. 50, 1623; "The Sixty-Third Congress," The Army and Navy Journal, L (1913), 1186.

13. McClendon, The Question of Autonomy for the United States Air Arm, I, 33.

14. Ibid., 28-32; Henry H. Arnold, Global Mission, 42; Foulois From the Wright Brothers to the Astronauts, 105.

15. Statutes at Large, XXXVIII, 514.

16. Ibid., 514-516.

17. Ibid.

18. Samuel Eliot Morison, Henry Steel Commager and William E. Leuchtenburg, The Growth of the American Republic, II, 358-376.

19. Charles Harvard Gibbs-Smith, Aviation An Historical Survey from its Origins to the end of World War II, 172-174; C. H. Hildreth and Bernard C. Nalty, 1001 Questions Answered about Aviation History, 101-114; Alvin M. Josephy, ed. The American Heritage History of Flight, 160-163; F. Alexander Magoun, A History of Aircraft, 386-387.

20. Holley, Ideas and Weapons, 36-37.

21. Statutes at Large, XXXVIII, 930.

22. Russell F. Weigley, History of the United States Army, 342-346; Congressional Record, 6th Congress, 1st Session (1915-1916) Vol. 53, 359-5015.

23. Arnold, Global Mission, 43.

24. Josephy, ed., American Heritage History of Flight, 164.

25. McClendon, The Question of Autonomy for the United States Air Arm, 40-47.

26. "Bills Before Congress," The Army and Navy Journal, LIII (1916), 1026.

27. Weigley, History of the United States Army, 347-350; Frederick L. Paxson, American Democracy and the World War: Pre-War Years, 1913-1917, 299-300.

28. "Operational" as used in this context means those organizations which are formed for the express purpose of carrying out some or all of the various missions of military aviation, such as observation, transport, bombing, or air to air combat. Units which devote their efforts solely to training are not considered 'operational.'

29. Foulois, From the Wright Brothers to the Astronauts, 236-137; Herbert Malloy Mason, The United States Air Force: A Turbulent History, 26-33.

30. Sweetser, American Air Service, 32-33.

31. Statutes at Large, XXIX, 174-176; Sweetser, American Air Service, 32-33.

32. Statutes at Large, XXXVIII, 353 & 1064.

33. Statutes at Large, XXXIX, 45.

34. Sweetser, American Air Service, 35-38; Statutes at Large, XXXIV, 621-622.

35. Morison, et. al., Growth of the American Republic, II 358-376.

36. Holly, Ideas and Weapons, 36-37.

CHAPTER II

YEARS OF IMPROVISATION, 1917-1918

In his annual report for 1918, Chief Signal Officer George Squier reflected on the problems which confronted the Aviation Section at the beginning of the war. Due to long years of practical neglect, he concluded, the United States entered the war with only a handful of fliers and a small number of training machines. There was virtually no aircraft manufacturing industry, and the number of aeronautical engineers and aircraft designers was so small as to be almost negligible.[1] The condition of the Aviation Section was discouraging. Not only was the section far too small, but the few planes it had were out of date and completely inappropriate for combat operations. Hap Arnold, a captain on the Aviation Section staff in Airil 1917, estimated the section's strength at 1,300 enlisted men and fifty-two officers, but of these only twenty-five were qualified pilots. The section had only fifty-five aircraft, according to Arnold, of which fifty-one were obsolete, four were obsolescent, and all were simple training types.[2] This meagre aviation force needed to be upgraded and expanded tremendously if the United States was going to make any contribution to the air war in Europe. And just as pressing as the need for additional men and machines was the requirement for an organization that could manage and control them efficiently. This latter problem called for careful analysis; the United States had never had a large air

force and the Army had little experience operating with aviation units. Unfortunately, there was no time for study or reflection; there was only time for action. An organization to manage the country's aviation program had to be developed extemporaneously, and the result was a hodgepodge of civilian and military agencies hastily improvised to meet immediate needs and loosely attached to the traditional military structure.

Hypothetical planning for the war began a few months prior to the actual declaration. Two days after President Wilson severed diplomatic relations with Germany, the War Department asked each of the Army's branches, corps, bureaus and departments to define its proper size within a national army made up of the regulars, the National Guard and 500,000 new volunteers. A month later, after German submarines torpedoed three American ships in onw day, the War Department initiated more concrete planning. Each branch was not asked to base its estimates on an army of one million men -- thirty-two infantry divisions and four cavalry divisions grouped into sixteen army corps. In response, the Aviation Section planned to provide observation, reconnaissance and artillery adjustment for this army with one aero squadron assigned to each division plus another squadron assigned to each corps headquarters, fifty-two squadrons in all. No independent striking force of bombers and pursuit planes was envisioned. Aviation Section planners estimated that implementation of

their program would require a force of 1,850 aviators and a total appropriation of $54,250,000. This plan was adopted as the country's initial wartime aviation program, and Congress quickly provided the necessary funds.[3] The Aviation Section had already been allotted $10,800,000, as part of the Army's appropriation for 1918, and, on June 15, Congress approved a deficiency appropriation of $45,450,000 to cover the balance of the funds needed.[4]

Unfortunately, the Aviation Section was poorly equipped for the task of planning a large-scale, up-to-date aviation program. The men of the Aviation Section were inexperienced in aeronautical matters, ignorant of the great advances taking place in Europe, and too few in number. There was no decision-making organization within the section for aircraft selection or the development of airpower doctrine. No procedure existed for defining proposed missions for military aviation and then translating mission requirements into concrete performance specifications and design characteristics for future aircraft.[5] Even if the Aviation Section had produced a well-conceived program, it is doubtful that it could have attracted the General Staff's attention. Aviation did not receive high priority at the General Staff in the spring of 1917. Hap Arnold described the situation in his memoirs:

> Our superiors were thinking about infantry divisions, field telephones, Yaphank and Spartanburg, muleskinners, horse artillery, trench helmets, campaign hats, gas masks, canvas leggings, shipping priorities, French 75's, duckboards and everything else Pershing needed right away. In the Airplane Division, we couldn't do much about it either, for even when we did get the rare chance to give

advice, our lack of experience prevented our making clear-cut, conclusive recommendations.[6]

As the Aviation Section's inadequacy became apparent, the government created advisory committees and joint councils to help plan and coordinate aeronautical matters. The trouble was that these advisory bodies were created with little forethought, in response to immediate needs, and not in accordance with an overall management plan. The broad, vaguely defined charters given to these advisory bodies enabled their aggressive staffs to usurp much of the Aviation Section's policy-making responsibility. Throughout the war, in fact, the government turned to these advisory committees rather than the Aviation Section for leadership in aeronautical matters. And it did so even though there were no formal lines of authority between the various committees and the Aviation Section.

First of the advisory groups to enter the policy-making realm was the National Advisory Committee for Aeronautics, which had been in existence since 1915. No sooner had the United States declared war than NACA, on its own initiative, began canvassing the country's aircraft manufacturers to determine their potential production capacity, coordinating tentative production allocations, and studying the feasibility of adopting the Canadian system of flight training. The extent to which NACA escalated its activity is illustrated by the

increases in its annual appropriations; from $5,000 in 1916, appropriations jumped to $85,000 in 1917 and $107,000 in 1918.[7]

Despite its early activity, as the war progressed NACA became less involved in policy decisions than the two newer groups, the Aircraft Production Board and the Joint Army-Navy Technical Board. In August 1916, Congress had created a Council of National Defense to help coordinate the industries and resources of the country in the interest of national security. Council members were the Secretaries of War, Navy, Commerce, Interior, Agriculture, and Labor; attached to the council was a seven member advisory commission of civilian specialists in some vital industry, public utility or the development of a strategic natural resource.[8] On May 6, 1917, responding to a suggestion from NACA, the council established the Aircraft Production Board as a subcommittee under its advisory commission. This board was empowered by the council to offer advice to the Army and Navy on questions or aircraft production. The board had no legal authority, however. It existed only on the strength of an internal order of the Council of National Defense, which itself was just an advisory commission, and it had no power to enforce its decisions. Completely outside the chain of command for the Aviation Section, the board was tied to that organization only through the person of the Chief Signal Officer, who served as one of the board's members.[9] Other members were chairman Howard E. Coffin, a prominent automobile manufacturer who was already

a member of the Council's advisory commission, Admiral David W. Taylor, Chief of the Naval Construction Bureau (the parent body of the Navy's aviation branch), Edward A. Deeds, former president of National Cash Register, R. L. Montgomery, senior partner in the Philadelphia financial house of Montgomery, Clothier and Tyler, and S. D. Waldon, ex-vice president of the Packard Motor Company. Despite its tenuous authority, the board boldly stepped into the policy vacuum created by the Aviation Section's inexperience in production matters. Within a short period of time, the Aircraft Production Board was establishing production goals, allocating contracts and even influencing aircraft selection. Thus, important aircraft production policy was being formulated by a subcommittee of an advisory commission under a coordinating council.

A second important coordinating body created in May 1917 was the Joint Army-Navy Technical Board (JANTB). Acting on another recommendation from NACA, Secretaries Josephus Daniels of the Navy Department and Newton Baker of the War Department formed this board of three Army and three Navy officers to coordinate design, selection and production of aircraft for the two departments. JANTB would review the various types of aircraft requested by the Aviation Section and the Office of Naval Aeronautics and then standardize as far as possible the design and general characteristics of the two services' aircraft. The lines of authority for JANTB were no more clearly defined, however, than those of the Aircraft Production Board. JANTB had no direct authority over the Aviation Section or the

Office of Naval Aeronautics. It could force implementation of its recommendations only by appealing to the two service secretaries. In practice, however, the board had no trouble getting its recommendations accepted because the understaffed Aviation Section virtually abdicated its responsibility for aircraft selection.[10] NACA, the Aircraft Production Board, and JANTB were all necessary at the time they were created, and they performed valuable services which the Aviation Section was simply incapable of providing. But the failure to tie the various agencies together into one cohesive structure under a single authority was to cause serious problems and establish dangerous precedents.

Aviation planners were operating in an information vacuum in the spring of 1917. No one in the United States could state with any degree of certainty what kind of an air force was required for the war. On May 26, however, a cable arrived in Washington from Premier Ribot of France describing in detail the exact size air force the United States should create. Ribot asked the United States to send a flying corps of 4,500 aircraft, 5,000 pilots and 50,000 mechanics to the western front during the campaign of 1918. Additionally, he asked the United States to manufacture 2,000 aircraft and 4,000 engines per month for the duration of the war. Thus, for the period from June 1917 to July 1918, the United States was to produce a total of 16,500 aircraft and 30,000 engines. This was a monumental task for a country boasting an aircraft industry which had produced only 800 planes in the previous

twelve months. France, one of the world leaders in aviation, had an air force only one-third the size of the force she was asking the United States to produce in a year.[11]

Undaunted in its ignorance, however, the Aviation Section plunged into the formulation of a detailed plan for making the Ribot request a reality. Late in June 1917 a small group of officers under Major Benjamin Foulois put the finishing touches on a $707,000,000 production and training program for turning out 22,625 aircraft and 6,210 pilots by June 30, 1918. When the General Staff proved unreceptive to this program, General Squier took it directly to the Secretary of War. Secretary Baker approved both the program and the appropriation request,[12] and submitted them to Congress in early July. There was only minimal debate on the program in both the House and Senate, and by July 24 "an Act ... to increase temporarily the Signal Corps of the Army ... " was law.[13]

Other than the unprecedented size of the envisioned aviation program, the provisions of the act to increase the Signal Corps were in no way revolutionary. Neither the Aviation Section's structure nor its relation to the Army were altered in any way. That was the one great weakness of the act, for while resources were increased dramatically, no effort was made to ensure effective management of those resources. The new legislation authorized the President, acting through the War Department, to increase the number of officers and

enlisted men in the Aviation Section as desired. Tactical organizations for the expanded Aviation Section were wisely left unspecified. The President was given blanket authority to purchase airplanes and airships, to establish and maintain aviation stations, to develop suitable airplanes, engines, and aircraft equipment, to establish or acquire plants for manufacturing aircraft, and to establish aviation training courses at colleges and technical schools. To put the entire program into effect, Congress appropriated $640,000,000, which The New York Times declared was the largest appropriation for a single purpose that had ever been made.[14] Taken together with the $54,250,000 already appropriated for 1918, this was a tremendous committment of resources to the development of aviation. The impact of these unprecedented appropriations would be blunted, however, by the failure to create an efficient management structure for the aviation program.

Failure to provide effective management for the aviation program was due primarily to lack of time and the press of other events. It was not due to lack of warning or opportunity, however. The first warning was sounded by the military establishment itself in March 1917. Concern that the Army and Navy might be drawn into cutthroat competition for limited aviation resources prompted the War and Navy departments to form a joint board of officers to study the possibility of coordinated development of the two services' air arms. In its March report, this board stated that,

> ... the development of the aeronautical resources of the United States and their application in war to the maximum national advantage can be accomplished best through the joint development, organization and operation of the aeronautical services of the Army and Navy, instead of by the separate development of each service within delimited exact areas of responsibility.[15]

The board's recommendation included standardized aircraft, joint training, joint occupancy of coastal air stations, and shared production facilities.[16] This was the first official recognition of the probable need for at least partial consolidation of the Army's and Navy's aviation branches. Opportunity to revamp management of the aviation program presented itself in April 1917 when Representative Murray Hulbert (D) of New York and Senator Morris Sheppard (D) of Texas co-sponsored a bill calling for an executive Department of Aeronautics. The Sheppard-Hulbert bill was similar to the bill introduced by Representative Lieb in 1916. The proposed department would have authority over all aviation matters pertaining to the Army and Navy and would be responsible for promoting the development of aeronautical science for public and commercial uses. The department would immediately absorb the aviation branches of the Army and Navy including their personnel, equipment and unexpended appropriations. In the event other executive departments became involved in aviation, the President was authorized to transfer all or any part of their aviation activities to the Aeronautics Department as his discretion.[17]

By prior agreement hearings on the Sheppard-Hulbert bill were held by the Senate Committee on Military Affairs, beginning June 12. After only a few days of testimony, however, the hearings ended and the bill was discarded. Proponents of the bill had two principal arguments. First was the value of aviation as the most cost-effective weapon for defending the continental United States against sea and air attacks. The second argument stressed the necessity of coordinating design, production and production of aircraft for the Army and Navy in order to avoid duplication and wasteful competition. But the witnesses who testified did not carry much weight with the committee. No top War or Navy Department officials appeared to testify for or against the bill. The bill's supporters were able to produce only civilian aviation enthusiasts with questionable qualifications to testify in favor of the bill.[18] The most influential witness to appear was Howard Coffin, chairman of the new Aircraft Production Board. Coffin's testimony probably hurt more than it helped, however. While he stressed the need for coordination, he also maintained that consolidation of Army and Navy aviation was not a prerequisite.[19] Whatever the reason, the Senators were unconvinced. The prevailing attitude seemed to be that aviation had not demonstrated sufficient independent military value to warrant being treated as anything other than an auxiliary to the Army and Navy. A Washington Post editorial on July 16 summarized the general view succinctly:

> As for a department of aviation, it is not only unnecessary but would be a mischief making addition to the national war machine. Airplanes are war implements; nothing more ... At this stage of their development they are auxiliary to military or naval forces, and should be under the direction of the military or naval commander in charge of operations. The time may come when an airplane army will be paramount and land and water forces secondary in importance; if so that will be the proper time to establish a department of aviation. At this time a separate aviation department would necessarily divide authority and create friction between fighting forces.[20]

It was more than a month after the act to expand the Signal Corps had passed before Congress took any steps to improve aviation management. On August 29, General Squier established an Equipment Division within the Signal Corps to design aeronautical equipment and formulate production programs. Squier hoped this new division would provide a common point of contact for the Aviation Section and the several advisory groups. Unfortunately, other than commissioning E. A. Deeds of the Aircraft Production Board as an Army colonel and appointing him chief of the new division, the Equipment Division was not tied in any way to the other agencies.[21] Failure to establish direct and formal connections between the Equipment Division and other agencies effectively nullified the division's ability to unify supervision of the aviation program. Ultimately, creation of the Equipment Division actually aggravated an already poor management situation by further confusing the lines of authority.

Later in the fall of 1917 a second effort to improve aviation management produced hardly better results. By legislation passed October 1, 1917, Congress replaced the Aircraft Production Board with the Aircraft Board. This action was beneficial since the Aircraft Production Board had no legal authority and existed only on the strength of an internal order of the Council of National Defense. Other than giving the old Aircraft Production Board legislative sanction, however, the act of October 1 did little to clarify the board's line of authority. The board was made neither superior nor subordinate to the aviation branches of the Army and Navy. Military representation on the board was increased by reserving six of the nine positions for the Chief Signal Officer, the Chief of the Naval Construction Bureau and two additional officers each from the Army and Navy. The chairman would remain a civilian, however. The board would receive requests for aircraft from the Army and Navy and then supervise and direct the production and purchase of these aircraft. The actual production contract would continue to be awarded by the agencies in the War and Navy departments which traditionally exercised this responsibility, however. The recommendations the Aircraft Board made on contracts carried great weight, but the board had no power to enforce them.[22] Although reconstituted with legislative sanction, the Aircraft Board continued as a virtually autonomous advisory body with more power to confuse than to

clarify the management picture.

Given the haste with which the United States plunged into aircraft production, the unprecedented appropriations, the inexperience and small staff of the Aviation Section, and the proliferation of independent advisory bodies, it would have been surprising if the aircraft production program had accomplished half of what was expected. Actually, the program got off to a surprisingly good start. Recognizing how ignorant American aviation officers were of developments in Europe, General Squier dispatched a mission of Army engineers and aeronautical specialists under Colonel Raynal C. Bolling to study the situation in Europe and report on the types and numbers of aircraft which the U. S. should produce. Completing its work as quickly as possible, the Bolling Commission recommended in July 1917 that the U. S. produce the British DeHaviland-4 (DH-4) two-seater observation plane, the British Bristol two-seater pursuit plane, the French SPAD single-seater pursuit plane, and the Italian Caproni bomber. At the same time the commission arranged to have one of each of these aircraft dismantled and shipped to the United States along with a full set of blueprints to provide physical examples for American manufacturers.[23] The United States now had the specific airplane types for the production program which had grown out of the Ribot cable.

Problems with production began almost immediately, however. In order to take advantage of the assembly line techniques

developed in the automotive industry, aviation authorities decided to develop a single standard engine, the Liberty, for use in all aircraft produced in the United States. European engines were largely handmade, and it would have required months to adapt them to American factory methods.[24] This decision meant that the aircraft recommended by the Bolling Commission all had to be redesigned to accept the Liberty engine. American engineers quickly discovered that modifying an aircraft for a new engine was tricky business. Seemingly innocuous alterations produced completely unforseen performance problems. At best, redesign required an extensive series of trial and error attempts to work all the defects out of the new designs. For example, the first test model of the DH-4 modified to accept the Liberty was completed in October 1917, but nagging problems with the new design delayed quantity production until May 1918. At its worst, redesign resulted in cancelling production of certain aircraft. Soon after the sample Bristol pursuit and its blueprints arrived in the U. S., Curtiss was awarded a contract for 2,000 Bristols. The first test models of the Liberty-modified Bristol were clearly unacceptable, and further modifications were ordered. But the new modifications added so much weight that the planes were extremely unstable in flight. Of the first twenty-six Bristols produced, all that were test flown crashed. After eleven months and more than $6,000,000, the Bristol was scrapped. Experience with the French SPAD was even more

discouraging. Curtiss contracted to produce 3,000 SPAD's, but after the firm's engineers examined the sample SPAD and the blueprints they decided it would be impossible to modify the SPAD for the Liberty. The receipt of numerous despatches from headquarters of the American Expeditionary Force (AEF) discouraging the production of single-seat pursuits sealed the SPAD's fate. Production was cancelled before a single model was built.[25]

Redesigning aircraft to accept the Liberty engine was not the only problem U. S. manufacturers faced. Blueprints for the European planes were in metric measurements. Before any work could begin, valuable time had to be spent converting the drawings to American measurements. Then, the resulting dimensions often were so unusual that extensive retooling of production equipment was required. An even more serious problem was the continuing rapid rate of technological progress in Europe. Designs forwarded to the United States in the summer of 1917 were outdated the following winter. As American manufacturers struggled to redesign aircraft and retool their plants, they were continuously showered with messages from Europe advising further modifications to keep the planes up to date. Manufacturers faced two equally unattractive alternatives. They could either try to incorporate all the recommended modifications and run the risk of never leaving the design stage, or they could freeze the design at some point to begin production and run the risk of turning out obsolescent aircraft. Both alternatives were tried;

aircraft like the Handley Page and Caproni bombers never entered quantity production, and others like the DH-4 were already obsolescent when produced.[26]

When the Aviation Section accepted the challenge of the Ribot cable, a massive publicity campaign was launched to build public support for the huge aviation appropriation. At a luncheon in New York City, Howard Coffin urged influential newspaper editors to throw their weight behind the aviation program. Soon the public was being bombarded with headlines and editorials boasting of the great aerial fleet the country was readying to crush the Germans.[27] Top aviation officials contributed with provocative promises that fired the public's imagination. General Squier talked of "regiments and brigades of winged cavalry mounted on gas-driven flying horses" that would "sweep the Germans from the sky and blind the Prussian cannon."[28] Howard Coffin told the editors in New York that "the land may be trenched and mined; guns and bayonets may form an impossible barrier. But the highways of the air are free lanes ... The road to Berlin lies through the air. The eagle must win the war."[29] These ststements and others like them generated tremendous public enthusiasm for aviation, but they also fostered expectations that proved almost impossible to meet.

Considering their initial enthusiasm it is not surprising that Americans were bitterly disappointed by the meagre number of aircraft manufactured during the first year of the

war. By March 1918, only nine DH-4's and no pursuit or bomber planes had been built.[30] Mounting public criticism induced the War Department in March 1918 to appoint a three-man investigative commiteee under H. Snowden Marshall, a former United States District Attorney. Two weeks later a subcommittee of the Senate's Committee on Military Affairs launched its own investigation. Both groups completed their work as quickly as possible and published their findings within a few days of each other in April 1918. Other, more thorough, investigations were launched in May by the Senate Military Affairs Committee again and by the Justice Department under former Justice of the Supreme Court Charles Evans Hughes. It was the reports from the first two investigations, however, which had the most immediate and direct impact on aviation management and the organization of the Aviation Section.[31] The two reports agreed completely. Delays in production were attributable to ignorance of the science of aeronautics and the failure to organize aviation management under a central authority. Within the United States there were few men with advanced scientific knowledge or extensive practical experience in the field of aeronautics. Thus a tremendous burden was placed upon a quite minor division of the Signal Corps which was ill-equipped for the task it was given. To remedy the situation, both reports recommended that aircraft production be separated from the Signal Corps and made the responsibility of one executive appointed by the President. The Signal Corps would retain responsibility

for Army air operations, although the Marshall committee did note that "eventually it will be desirable to make the aircraft service a separate department entirely distinct from the Army and Navy."[32]

It did not take the War Department long to implement the recommendations of the Marshall and Senate committees. On April 24, 1918, Secretary Baker announced a reorganization of the administration of military aircraft production and operations. The Aviation Section was separated from the Signal Corps and reconstituted as the Division of Military Aeronautics (DMA) with Brigadier General William L. Kenly, an artilleryman, in command. Henceforth, the Chief Signal Officer was to devote his attention solely to signals. The Division of Military Aeronautics would have complete control of aircraft operations and aviation training for the Army. Aircraft production became the province of John D. Ryan, a prominent industrialist, who was appointed Director of Aircraft Production and also replaced Howard Coffin as chairman of the Aircraft Board. The Aircraft Board would continue to serve as an advisory committee for both divisions.[33] This internal shakeup satisfied the recommendation that aircraft production be separated from the Signal Corps and placed under the authority of one man, but it made use of a dubious expedient. Production authority was centralized by appointing one man to head the different agencies involved in the aviation program. This was easier and less controversial than

subordinating the powers and functions of the various agencies to the authority of one superior organization. It was also far less effective.[34]

Less than a month after the War Department revamped its management of the aviation program, the President confirmed the reorganization with an executive order issued under the authority of the newly-enacted Overman Act. The pre-war organization of many government bureaus was not suited to wartime problems. Throughout the war, government agencies were constantly adjusting their internal organization to meet the demands of the war more efficiently. Unfortunately, many of the necessary adjustments required Congressional action and that was often a slow, laborious process. In February 1918, Senator Lee Slater Overman (D) of North Carolina introduced a bill which would give the President authority to redistribute the functions, powers and duties of the executive departments as he saw fit, "in the interest of economy and more efficient concentration of the government."[35] The act would remain in force for the duration of the war and six months after. As passed May 20, 1918, the Overman Act included one section dealing specifically with management of the aviation program. Section three authorized the President to "establish an executive agency which may exercise such jurisdiction and control over the production of aeroplanes, aeroplane engines, and aircraft equipment as in his judgement may be advantageous ... "[36] It was under this authority that

Wilson issued his executive order of May 21. The Director of Military Aeronautics was to be appointed by the Chief of Staff and was responsible to the Secretary of War for aircraft operations and training. A Bureau of Aircraft Production (BAP) was established with full control of purchasing, manufacturing and production of aircraft and aeronautical equipment. The chairman of the Aircraft Board would also hold the post of executive director of the Bureau of Aircraft Production and be responsible in that capacity to the Secretary of War. General Kenly and John D. Ryan were retained as directors of the Division of Military Aeronautics and the Bureau of Aircraft Production, respectively.[37]

With the promulgation of the executive order of May 21, administration officials and their supporters in Congress were confident they had satisfied the demands for consolidated and centralized management of aviation. Agitation for further centralization continued to mount, however, as the new management structure revealed a major flaw. The Division of Military Aeronautics and the Bureau of Aircraft Production shared a vital common concern, aircraft design and acceptance. As the user, the Division of Military Aeronautics felt it should be the final authority on design chacteristics and should be responsible for final test and acceptance. The Bureau of Aircraft Production countered that these functions fell wholly within the production realm. Since the two bureaus each had equal authority, neither was responsible

to the other. No means of formal coordination between them were specified by the May 21 directive, and the specific issue in question was deliberately left open to be worked out through inexperience. Eventually an informal protocol was agreed to whereby the two bureaus would collaborate on design and the DMA would be responsible for final acceptance, but as General Kenly noted, this was a cumbersome arrangement.[38] In August 1918, the Senate Military Affairs Committee underscored the inadequacy of the new arrangement in the report from its second investigation of aircraft production. While acknowledging that the activities of the DMA and BAP had been partially coordinated, the committee pointed out that a dual organization still existed which was subject to differences and divisions of responsibility at any moment. The commiteee then went on to declare that the "importance and magnitude of aviation as a permanent branch of our military organization requires one directing and responsible head for both its efficiency and speedy development. Its classification with the Army and Navy as a distinct arm of the service is essential to this end."[39]

Pressure for a separate air department co-equal with the Army and Navy was building to a climax. On August 1, 1918, Senator Harry S. New (R) of Indiana introduced a bill for a Department of Aeronautics to function for the duration of the war and one year after. New was a member of the Military Affairs Committee's second investigation of aircraft production, and was well aware of the rising sentiment within

the committee for a consolidated and centralized air administration. In retrospect New's bill might seem unimportant, coming as it did so close to the end of the war. In august 1918, however, against the background of the failures of the aircraft production program, his bill was taken quite seriously, and it stood an excellent chance of winning approval. Headed by a Secretary with cabinet rank, New's aeronautics department would have "direct and complete control of all matters pertaining to the designing, purchase, manufacture and production of aircraft and aeronautical equipment for the Army, Navy and Marine Corps."[40] Since the bill did not assign responsibility for aircraft operations and training to the new department, these functions would remain under the Army's and Navy's control.[41] The carefully limited existence and authority of the new department suggest that Senator New intended his bill only as a temporary solution. Clearly the bill did not go as far as many advocates of centralization wanted. Perhaps Senator New reasoned that centralizing just the production activities would still yield substantial benefits, and since production was the most publicized deficiency of the aviation program, limiting the bill's scope to the production functions would increase its chances for success.

Despite its limited nature, however, Senator New's bill generated lively debate. In an interview with The New York Times on August 2, New argued that the United States would

never be able to achieve the high efficiency necessary to produce large numbers of aircraft without a concentration of authority. New also maintained that virtually all the Army officers and aircraft manufacturers examined during the Senate's investigation of aircraft production favored further consolidation of aviation management.[42] General Kenly appeared before the Senate commiteee and testified in favor of a separate air department similar to the independent air ministry created by the British. Kenly described the informal coordination which existed between the Division of Military Aeronautics and the Bureau of Aircraft Production, but noted that the existence of two independent divisions, neither having the authority to direct or compel the other, required the utmost in harmonious relations in order to prevent conflict and confusion. He also stated that while there was no real friction between the Army and Navy there was wasteful competition for scarce aviation resources.[43]

Top administration officials, including the President himself, Secretary Baker, and Secretary Daniels of the Navy Department, strongly opposed New's proposals. Ironically, it was Senator Morris Sheppard, co-sponsor of the Sheppard-Hulbert bill, who epitomized administration opposition. Sheppard collaborated with Senators William F. Kirby (D) of Arkansas and Henry L. Myers (D) of Montana on the minority report from the Military Affairs Committee's second investigation of aircraft production. These three Senators disputed

the majority opinion that incompetence and inefficient organization were responsible for the poor production results. In their opinion aircraft production was simply an extremely difficult problem that was being tackled with typical American energy, capacity, and patriotism. The dissatisfaction with aircraft production was almost entirely the result of having encouraged unreasonable expectations in the spring of 1917. Removing authority for aviation from the Army and Navy would not make production any easier and could only complicate the military situation. The advocates of a separate air department were forgetting that despite the airplane's military value it was still only an adjunct to the land and sea force.[44] The Army and Navy Journal agrued against the New bill on the grounds that Wilson's May 21 directive had already established efficient management for aviation without sacrificing Army and Navy control. And the Navy protected its interests by declaring it would oppose wholeheartedly any attempts to consolidate the Army's and Navy's aviation branches.[45]

On August 28, while hearings on the New bill were still underway, Secretary Baker announced a further consolidation of the War Department's air administration which some critics interpreted as an attempt to undercut support for the New bill. John D. Ryan was elevated to the newly-created post of Second Assistant Secretary of War and given full power to control and coordinate both the Bureau of Aircraft Production

and the Division of Military Aeronautics.[46] Ryan also retained his posts as chairman of the Aircraft Board and director of the Bureau of Aircraft Production. Although consolidating the operations and production functions of army aviation under a single head in a separate branch of the War Department was a major improvement, the Senate committee at this point would not be satisfied with anything less than consolidating both Army and Navy aviation in a separate cabinet-level department. On September 17, the Senate committee reported the New bill back to the full Senate favorably with only two dissenting votes, those of Senator Sheppard and Senator Kirby. This was the highwater mark of the wartime effort to establish an aeronautics department. The supporters of the bill could never bring it to the Senate floor for debate, and within a month the bill was overtaken by events.[47] First the Armistice in November and then the post-war drive to restructure the entire Army made the provisions of New's bill irrelevant.

When the Armistice was declared on November 11, 1918, the Army Air Service bore little resemblance to the Aviation Section of prewar days. From a minor subdivision of thq Signal Corps, the Air Service had grown into a separate branch of the Army with 20,568 officers and 174,456 enlisted and civilian personnel. The fifty-five aircraft with which the Aviation Section entered the war had been reinforced by 16,952 aircraft procured during the war, and the two air-

fields in service in January 1917 had multiplied to forty-eight by the Armistice.[48] Despite its fantastic growth, however, the American Air Service had played only a brief role in the war. The first American combat squadrons did not reach the front until April 1918, and American units accounted for only ten per cent of total allied air strength by the end of the war. During its brief combat experience, the AEF Air Service destroyed 776 German planes and 72 balloons. Bombing crews flew 150 missions and dropped 275,000 pounds of bombs, but the maximum penetration into Germany was only 160 miles. American units lost 164 killed, 102 captured, 103 wounded and 200 missing in action.[49] To skeptics of airpower's value, the achievements of the Air Service seemed minor compared to the contributions made by the other Army branches, and justifiably so. The war had merely confirmed what the skeptics already strongly suspected, that aviation was a valuable but nevertheless auxiliary branch of the Army and Navy. But the more radical advocates of airpower, men like Billy Mitchell and Benjamin Foulois, thought that they saw in the aviation developments of the war's last stages a much more ambitious and important future for airpower. After the war there would be an intense struggle between those who wanted to keep aviation subordinate to the Army and Navy and those who demanded independence for aviation so it could grow to its full potential.

NOTES CHAPTER II

1. War Department, Annual Report - Chief Signal Officer, 1918, 1073-1074.

2. Henry H. Arnold, Global Mission, 50. Estimates of the Aviation Section's strength at the beginning of the war vary widely, with some going as high as 250 aircraft and 130 officers. Since, however, only 224 aircraft had been ordered since 1907 (Benedict C. Crowell, America's Munitions, 1917-1918: Report of Benedict C. Crowell, Assistant Secretary for War, Director of Munitions, 240), and time and abuse took a steady toll on aircraft, Arnold's estimate of fifty-five aircraft in service is probably quite accurate. Arnold himself may provide an explanation for the discrepancies in the estimates of the number of officers. He states (p. 50) that there were 130 "so-called pilots." But pilots at that time did not have to be officers. Some enlisted men were trained as pilots or observers and the 1916 National Defense Act had created the non-commissioned grade of aviator for pilots who joined the Aviation Section directly out of civilian life. So it is quite possible that those who credit the Aviation Section with 130 officers in April 1917 are assuming that the 130 "so-called pilots" were all officers.

3. Arthur Sweetser, The American Air Service, 42-45; Irving B. Holley, Ideas and Weapons: Exploitation of the Aerial Weapon by the United States During World War I, 40.

4. The Statutes at Large of the United States of America, XXXIX, 42-44 and 187-188.

5. Holly, Ideas and Weapons, 39.

6. Arnold, Global Mission, 52.

7. Holley, Ideas and Weapons, 66-67 and 108-110; Sweetser, American Air Service, 45-55.

8. Statutes at Large, XXXIX, 649-650.

9. R. Earl McClendon, The Question of Autonomy for the United States Air Arm, I, 12-13; Sweetser, American Air Service, 47-48.

10. Holley, Ideas and Weapons, 40; Army War College, The Signal Corps and Air Service: A Study of Their Expansion in the United States, 1917-1918, 36.

11. Sweetser, American Air Service, 66-68. The estimates of American aircraft production are taken from Crowell, America's Munitions, 1917-1918, 239-240.

12. Sweetser, American Air Service, 66-68; Arnold, Global Mission, 54; Benjamin D. Foulois, From the Wright Brothers to the Astronauts: The Memoirs of Major General Benjamin D. Foulois, 143-147.

13. Congressional Record, 65th Congress, 1st Session (1917), Vol. 55, 4765-5372.

14. Statutes at Large, XL, 243-247; "Air Bill is Signed: Need 110,000 Fliers," The New York Times, July 25, 1917, 2.

15. "Joint Air Board Reports," The Army and Navy Journal, LIV (1917), 961; "Joint Air Service for Army and Navy," The New York Times, March 22, 1917, 2.

16. Ibid.

17. U. S. Congress, Senate, Committee on Military Affairs, Hearings on S. 80. To Create a Department of Aeronautics, 65th Congress, 1st Session (1917), 2-5.

18. Ibid., 1-100.

19. Ibid., 33.

20. "Makt it Unanimous," The Washington Post, July 16, 1917. Quoted from the Congressional Record, 65th Congress, 1st Session (1917), Vol. 55, 5147.

21. Army War College, The Signal Corps and Air Service, 38; Holley, Ideas and Weapons, 68; McClendon, Autonomy for the United States Air Arm, I, 50.

22. Statutes at Large, XL, 296-297.

23. Holley, Ideas and Weapons, 52-60.

24. Crowell, America's Munitions, 1917-1918, 265-267.

25. Army War College, The Signal Corps and the Air Service, 78-83; Holley, Ideas and Weapons, 120-128.

26. Army War College, The Signal Corps and the Air Service, 83-85; Holley, Ideas and Weapons, 118-145.

27. Sweetser, American Air Service, 74-82.

28. "$600,000 Asked for Huge Air Fleet," The New York Times, June 16, 1917, 10.

29. Herbert Malloy Mason, The United States Air Force: A Turbulent History, 37-38.

30. Holley, Ideas and Weapons, 118.

31. McClendon, Question of Autonomy for the United States Air Arm, I, 56.

32. Congressional Record, 65th Congress, 2nd Session (1917-1918), Vol. 56, 4876-4877; Frederick Palmer, Newton D. Baker: America at War, II, 190-193; "Shakeup at Hand in Aircraft Work," The New York Times, April 13, 1918, 13.

33. "J. D. Ryan Chosen to Direct Making of Army Aircraft," The New York Times, April 25, 1918, 1-3; War Department, Annual Report - Director of Military Aeronautics, 1918, 1382-1383.

34. Ibid.; McClendon, Question of Autonomy for the United States Air Arm, I, 17.

35. Statutes at Large, XL, 556.

36. Ibid., 557.

37. War Department, Annual Report - Director of Military Aeronautics, 1918, 1383-1385.

38. Ibid., 1385.

39. Congressional Record, 65th Congress, 2nd Session (1917-1918), Vol. 56, 9333.

40. "For an Air Secretary," The Army and Navy Journal, LV (1918), 1879.

41. Ibid.

42. "New Offers Bill for Air Ministry," The New York Times, August 2, 1918, 4.

43. "Aircraft Effort Still a 'Jumble' Kenly Asserted," The New York Times, August 26, 1918, 1.

44. "Is an Air Ministry Necessary," The New York Times, August 11, 1918, Sec. VI, 3.

45. "The Proposed Department of Aeronautics," The Army and Navy Journal, LV (1918), 1949; "Navy Planes Satisfactory," The New York Times, August 30, 1918, 10.

46. "Ryan Appointed to Direct Army's Entire War Plans," The New York Times, August 28, 1918, 1.

47. Ibid.; U. S. Congress, Senate, Committee on Military Affairs, Report to Accompany S. 4852, To Create a Department of Aeronautics (Senate Report #570), 65th Congress, 2nd Session (1917-1918), 1; "Report Air Ministry Bill," The New York Times, September 18, 1918, 11; Congressional Record, 65th Congress, 2nd Session (1917-1918), Vol. 56, 10377-10670.

48. Crowell, America's Munitions, 1917-1918, 240-243; War Department, Annual Report - Secretary of War, 1918, 56.

49. James J. Hudson, Hostile Skies: A Combat History of the American Air Service in World War I, 299.

CHAPTER III

POSTWAR REORGANIZATION, 1919-1920

Army aviation was at a crossroads immediately after the war. One possible course was for Congress to allow the Air Service to revert to its prewar status as an Aviation Section within the Signal Corps. The reorganization effected during the war had been carried out under the authority of the Overman Act and therefore would expire a year after the war was officially ended. At that point, the provisions of the National Defense Act of 1916 would become binding again unless Congress passed new Army legislation. A second alternative was for Congress to pass legislation making permanent the organizational structure which existed at the end of the war. This would establish the Air Service as a separate branch of the Army, with a strength considerably larger than its prewar predecessor, the Aviation Section. A third alternative was to concentrate authority over all of the government's aviation programs in a single cabinet-level department of aeronautics. The rate at which aviation would develop in the United States after the war depended to a great extent on which of these three alternatives was adopted as government policy.

Debate on the proper postwar status and structure for the Air Service took place within the larger context of Army reorganization. The ink on the Armistice papers had hardly dried

before the War Department and Congress set out to restructure the Army. The war had revealed serious weaknesses in America's prewar military establishment. In fact, one noted authority declared that never had the United States entered a war with the Army less prepared than it was for World War I.[1] The prewar American Army was far too small, and American units were poorly trained for the type and scope of operations they encountered in France. More important, procedures for raising, equipping and training a large body of additional troops were almost non-existent. The war itself had stimulated new developments in military science which needed to be incoporated in the postwar American Army. Special branches to control the use of new weapons like the tank, disabling gases and chemicals, and the airplane had become integral parts of the American Expeditionary Force (AEF) during the war. After the war, some provision for these new branches had to be made in the permanent peacetime American Army. Similarly, the war had demonstrated the necessity for improved logistics machinery and for procedures for mobilizing the industrial resources of the country in time of war. Thus the effort to define a new role for aviation would be only one small part of a many-sided effort to restructure the entire Army.

War Department planners recognized the need for updating the Army structure while the war was still in progress. As early as July 1918, General Peyton C. March, the Army Chief of Staff, directed the War Plans Division of the General Staff to

prepare a reorganization plan which would be submitted to Congress after the Armistice. As finally approved by General March, this plan proposed a regular force of 500,000 men and legitimized the increased status earned by the various new branches during the war. In fact, one of the justifications for increasing the size of the regular Army from the maximum of 175,000 specified by the National Defense Act of 1916 was to provide for the new branches. The bill was introduced in the House on January 16, 1919, and referred to the Committee on Military Affairs, where it drew fire almost immediately. To many of the Representatives, this General Staff plan smacked of militarism. General March's idea was to establish a large peacetime regular force organized as the skeleton of a much larger army. In the event of war, these regulars would provide a core of experience within each unit as the Army was expanded to double or triple its peacetime strength by volunteers or conscripts. A large standing army in peacetime was anathema to many of the congressmen, however. They favored a much smaller regular force augmented by universal military training (UMT) or a large National Guard.[2] The final session of the 65th Congress was due to end in early March 1919, and it quickly became apparent that the General Staff's bill was too controversial to be acted on in the short time remaining. Consequently, the chairman of the House Military Affairs Committee, Hubert S. Dent (D) of Alabama, elected to return the bill to the War Department and leave the problem of Army reorganization to the 66th Congress.[3]

Some restructuring of the Air Service could not await action by the 66th Congress, however. A few days after the Armistice, John D. Ryan resigned his positions as Second Assistant Secretary of War, director of the Bureau of Aircraft Production and chairman of the Aircraft Board. Ryan's resignation destroyed the consolidation which had been established during the war. The Air Service was without an overall director, and the operations and production bureaus were again completely independent. Now the fallacy of achieving centralization by simply subordinating the various agencies to the same man rather than by consolidating them all within a single superior organization was readily apparent.[4] Fortunately, coordination of the operations and production bureaus was no longer as critical or as difficult as it had been during the war. The Air Service was being demobilized rapidly, and all production contracts that could were being cancelled.[5] Secretary Baker apparently saw no need to continue the post of Second Assistant Secretary of War, for, when Ryan resigned, Baker simply appointed Colonel James A. Mars as acting director of Aircraft Production. At the same time, Baker relieved General Kenly as Director of Military Aeronautics and appointed Brigadier General Charles T. Menoher, an infantryman, as Director of the Air Service. The New York Times interpreted these appointments as a strong indication that the government intended to retain the Air Service as an integral part of the Army rather than establish a separate air department.[6]

In March 1919, President Wilson issued an executive order that further solidified the new Air Service structure. Wilson abolished the Aircraft Board and specifically gave General Menoher, as Director of the Air Service, full control over all production activities. Almost immediately, Menoher announced an internal reorganization of the Air Service. The old bureaus of aircraft production and military aeronautics were eliminated. In their place, Menoher established subordinate staff divisions for training and operations, information, administration, supply and production, and maintenance. Menoher was adopting the staff structure which had been employed so successfully by the AEF Air Service during the war.[7]

After the House Military Affairs Committee decided to forego action on General March's reorganization bill, there was a lull in the reorganization campaign until the new Congress could initiate hearings. In the interim, the interested parties began circulating proposals for the postwar Air Service around War Department and congressional offices. One of the earliest proposals came from the National Advisory Committee for Aeronautics. In its annual report to President Wilson for 1918, NACA advocated a relatively small air force sufficient to meet only the country's immediate needs. NACA's reasoning was that aircraft technology was advancing too rapidly to warrant investing in a large number of planes. Rather than establish a large air force that would quickly be obsolescent, the United States should mount an extensive research and development effort to keep abreast of technological developments.

At the same time, however, the government must implement a coordinated production plan to ensure the creation of a strong nucleus of aircraft manufacturers. The small number of contemplated government orders would have to be carefully apportioned among the competent manufacturers in order to keep them in business. The President endorsed NACA's report and forwarded it for Congress' consideration in December 1918.[8] Wilson followed up on another of NACA's recommendations in February 1919 when he submitted legislation to Congress giving the Commerce Department responsibility for licensing civilian pilots and aircraft and for regulating aerial navigation. Although the Secretaries of War, Navy, and Commerce approved this plan, Congress failed to act on it before the end of the 65th Congress in March 1919.[9] It would surface again, however, as an issue during the Army reorganization hearings.

Most thinking about the future of the Air Service was being done in military circles. The General Staff's concept, as outlined in its bill for a 500,000 man Army, was to establish the Air Service as a separate combat branch of the Army. The Air Service would be allotted 2,000 officers, 20,000 enlisted men and 5,100 aircraft to form 87 squadrons. One wing, consisting of five observation/bombing squadrons and four pursuit squadrons, would be attached to each of the five proposed Army corps, and the remaining forty-two squadrons would be assigned to coastal defense.[10] Unlike his predecessor, General Menoher was quite content to accept the General Staff's concept for the Air Service, and he directed Air Service personnel to leave questions

such as a separate air department or a unified air service to the General Staff. Menoher's only concern was the continuance of sufficient government orders for new aircraft to support the manufacturers until they could market their aircraft commercially.[11]

The Navy Department's continued opposition to a consolidated air department reinforced the General Staff's contention that the Air Service should remain an integral part of the Army. Top Navy officials were not even willing to establish naval aviation as an independent corps within the Navy. Naval Aviation officers would continue to be regular line officers temporarily detailed to aeronautical duty. The Navy Department contended that naval aviation officers could coordinate effectively with the fleet only if they were fully proficient in all phases of fleet operations. For the same reasons, Army and Navy aeronautical operations could never be consolidated under some independent authority. The two services' aviation branches differed radically in equipment and wholly in tactics. Only in certain portions of the research and development process could the aviation activities of the two services be combined.[12]

American Expeditionary Force headquarters also furnished reinforcement for the General Staff's concept of the postwar Air Service. In April 1919, General Pershing convened a Superior Board on Organization and Tactics composed of seven AEF officers under the direction of Major General J. T. Dickman. This board's task was to draw on the experiences of the AEF to

formulate an ideal plan of organization for a field of army operating with its own supply system. The board was also to evaluate operations during the war and suggest proper lines of tactical development for the future. In its findings, the Dickman Board did not speculate about the desirability of establishing a separate aeronautical department. The board did, however, make pointed observations about aviation's contributions during the war and its proper relation to the other Army branches that had direct bearing on the future organization and status of the Air Service. In its report, the Dickman board recognized the rapid evolution of aerial equipment and tactics during the war. But, the board went on to say,

> ... nothing so far brought out in the war shows that aerial activities can be carried on independently of ground troops to such an extent as to materially effect the conduct of war as a whole .... When ground forces are to be used, and ... we believe ground forces will continue to be the major part of those provided ..., aviation must continue to be one of the auxiliaries of the principal arm of the Infantry.[13]

As the distillation of the AEF's experience in France, the Dickman Board's findings carried great weight. The board completed its report in July 1919, and, though General Pershing did not formally submit it to the Secretary of War until June 1920, word of the findings leaked out almost immediately. The Dickman Board's conclusions with respect to aviation can be criticized on the grounds that no aviation officer was a member of the board. In response to a directive from Pershing's office, Major General Mason M. Patrick, Chief of Air Service, AEF, did convene a committee of aviation officers to submit a recom-

mendation to the Dickman Board. This committee limited itself to the assigned question of the proper organization of an air service within a field army, however, and did not address the issue of the future status of the Air Service as a whole.[14] Thus the board reached its verdict on the value of airpower by relying on the judgements of senior Army officers with little or no interest in promoting aviation.

One of the most important contributions to the postwar debate on the future of aviation in the United States was the study done by the American Aviation Mission. In May 1919, at the direction of the War Department, Assistant Secretary of War Benedict Crowell led a delegation of Army, Navy, and aircraft industry representatives on an aviation fact-finding tour of Great Britain, France, and Italy. For two months members of the American Aviation Mission visited government and private aviation facilities in all three countries and interviewed a score of government ministers, top-ranking army and navy commanders, and the foremost aircraft manufacturers. In July the mission submitted its report describing the pace and direction of aviation development in Europe and outling a comprehensive plan for organizing America's aeronautical programs.[15]

Adopting the general European view of aviation, the American Aviation Mission declared that the airplane would play a far more important role in any future war than it had in the past. Future wars would open with great aerial battles far in advance of any contact between land or sea forces; no country could expect victory in future wars unless it controlled the air. On

the other hand, no country could afford to maintain a peacetime air force large enough to serve its war needs. Nor could any country afford to rely on its ability to mount a crash aviation development program once war came. The recent war had demonstrated that at least two years of high pressure effort were required to achieve quantity production of aircraft. The only answer to this dilemna lay in the development of commercial aviation. The emergency of a substantial air transportation industry with its large commercial fleet and extensive production facilities would reduce the need for military equipment and personnel. The aircraft, landing fields, personnel, production plants, and maintenance facilities used by commercial establishments would be available as a reserve for the military in time of war.

Apart from its potential as a military reserve, commercial aviation also promised to become invaluable in its own right. The rapid increases in the speed, range, and carrying capacity of aircraft made it safe to predict that aviation would become one of the great transportation mediums of the world, offering the fastest and most direct means of transportation for people, mail, and freight. And no country, especially a major power, could afford to neglect the highest development of its transportation system. Effective management and coordination of military and commercial aviation programs was essential for rapid development, and centralization was the key to effective management. England had taken the step of establishing a separate air ministry two years earlier. France and Italy had

both recently centralized aviation authority in a single bureau within one of their major government ministries. In both countries, however, this was intended as merely a transition to a separate air ministry.[16]

Based on these findings, the American Aviation Mission recommended that all the aeronautical activities of the United States be consolidated in a single government agency co-equal with the War, Navy, and Commerce Departments. Within this air department there would be subdivisions for managing civil aeronautics, military aeronautics, naval aeronautics, supply research, production, finance, and any other areas deened necessary. At the heart of the department would be a national air service controlling all military aviation forces. This national air service would procure and be responsible for all aeronautical equipment and would train aviation personnel for all government departments. The Army and Navy would continue to maintain integral aviation branches to satisfy their need for observation, reconnaissance, and artillery adjustment, but the personnel and equipment for these branches would come from the national air service's resources. The national air service could also assign units of its own to participate temporarily in Army or Navy operations. All personnel and equipment permanently or temporarily assigned to the War or Navy Departments would pass under Army or Navy command. Independent air operations and aeronautical units not assigned to other departments would remain under the full control of the national air service. Other

features of the proposed department included an aeronautical college and an extensive centralized research and development facility for government and private use.[17]

Secretary Baker was not pleased with the American Aviation Mission's report. After learning ahead of time that their investigations had convinced the commissioners that a separate air department was a necessity, Baker warned Crowell that his group was simply a fact-finding mission and was not to present any conclusions in its report.[18] When the report appeared with recommendations for a separate air department, Baker did not try to suppress it, however. Instead he released it with a letter declaring that in his opinion the mission had "gone too far in suggesting a single centralized Air Service." Baker grounded his disagreement on the belief that the Air Service could not be separated from Army and Navy control without jeopardizing the efficiency of military operations.[19] Despite Baker's opposition, however, the American Aviation Mission's report provided powerful ammunition for proponents of an independent aviation department.

An early indication of how Congress would respond to the Air Service debate was provided by the hearings on Army appropriations for fiscal year 1920, which began in the House on January 18, 1919. The original War Department estimate was predicated to a great extent on acquiring sufficient funds to support the force proposed in the General Staff's reorganization bill.[20] Calculating appropriations for 1920 was complicated,

however, by the ongoing demobilization. On July 1, 1919, there still would be well over a million men in the Army. But at the current rate of demobilization, the Army would be reduced to somewhere near 200,000 men by June 20, 1920, which was the approximate peacetime strength authorized by the National Defense Act of 1916. Thus, in calculating the necessary funds for 1920, the War Department had to estimate the average size of the Army during the coming year. Conveniently, the department calculated this average as 509,000 men, which was almost identical to the strength proposed for the postwar Army in the General Staff's reorganization bill.[21]

Included in the War Department's estimates for 1920 was the provision for an Air Service of 24,000 men. Colonel W. E. Gilmore of the Air Service testified that prior to the Armistice General Kenly had formed a committee of Air Service officers to prepare a recommendation for General March's reorganization plan. This committee proposed a 45,000 man Air Service to support a 500,000 man Army. A General Staff committee appointed to rule on the various branches' recommendations for the reorganization plan reduced the size of the proposed Air Service to 24,000 men. Colonel Gilmore pointed out that no aviation officers were members of the General Staff committee, and that according to current tables of organization, a 24,000 man Air Service was sufficient to support only a 250,000 man Army. Nevertheless, 24,000 remained the limit for the Air Service in General March's reorganization plan, and was adopted as the basis for the 1920 appropriation request. For an Air Service of 2,000 officers

and 22,000 enlisted men equipped with 2,006 aircraft, the Army was requesting $35,450,000. No monies were requested for new aircraft as the Army had well more than 2,0006 aircraft on hand after the war. This aircraft bonanza would be temporary, however, because even the newest of those planes were obsolescent. Moreover, the operational or storage life of the planes on hand averaged only a year. With new aircraft costing $6,000 to $25,000 apiece, future appropriations would need to be considerably larger to allow the Air Service to re-equip itself.[22] The House committee accepted 509,000 men as a reasonable average Army size for the coming year. Before reporting the bill to the full House, however, the committee reduced the Air Service's appropriation to $20,000,000. Similarly, the full House approved funds sufficient to support an average Army of 509,000 men but reduced the Air Service's appropriation even further to $15,000,000.[23]

In the Senate, the Air Service request received considerably better treatment than it had in the House. When the Senate Military Affairs Committee reported the appropriations bill back to the full Senate, it had made two significant changes to the sections providing for the Air Service. First, the appropriation was increased from the $15,000,000 finally approved by the House to $30,000,000. Second, and more significant, the Senate committee added a clause creating an executive Department of Aeronautics for the period of the "present war and one year after."[24] This department would control production

and operation of all aircraft for the Army, Navy, and Marine Corps. The President was given full authority to transfer to the Department of Aeronautics duties, functions, personnel, and equipment from any other departments as desired.[25] Evidently, there was much more sympathy for an independent air department in the Senate Military Affairs Committee, at least, than there was in the House.

As it was the supporters of a strong independent air department never got an opportunity to test their case on the Senate floor. In the congressional elections held November 5, 1918, the Republicans had recaptured a majority of the seats in both houses of Congress, and were eager to assert their control after eight years of Democratic domination. Knowing that the President would not be anxious to convene a Republican Congress, a group of Republican Senators hoped to force Wilson into calling a special session of the 66th Congress as soon as the lame duck third session of the 65th Congress ended in March 1919. Their method was to block passage of some vitally needed legislation during the final session of the 65th Congress, and the Army appropriation bill was a perfect candidate. As soon as the appropriation bill was reported from committee, a successful filibuster was launched, and the bill never came up for consideration by the full Senate. Then, as anticipated after the 65th Congress ended March 4, 1919, without having passed an Army appropriation bill, the President called the 66th Congress into a special session on March 19, 1919.[26]

It was late May 1919 before the 66th Congress reopened hearings on Army appropriations for 1920. Once the hearings were underway in the House, it was apparent that an anti-military spirit was gathering momentum. The War Department submitted virtually the same estimates it had urged in January. The requested appropriation for the Air Service had increased significantly, however, from $35,450,000 to $83,170,000, primarily because of the addition of $29,000,000 for new aircraft and engines.[27]. But the House committee proved less receptive than before to the War Department's program. The committee recommended an appropriation sufficne to support an average army of only 400,000 men, and, more importantly, sliced the appropriation for the Air Service back to $150,000,000.[28] The full House reduced the total appropriation even further, approving funds sufficient to support an average Army of 300,000 men. The Air Service appropriation remained $15,000,000, but Fiorello LaGuardia, a freshman Republican representative from New York, made an unsuccessful effort to get the appropriation reduced to $10,000,000. This seemed out of character for LaGuardia, a former aviation officer who had served in Italy during the war and had a reputation as a strong supporter of the Air Service. LaGuardia's reasoning, however, was that $10,000,000 would support an adequate temporary Army aviation branch for one year while Congress set about consolidating the Army, Navy, and Post Office air branches in a separate aeronautics department.[29]

As it had in the 65th Congress, the Senate gave the War Department's program considerably better treatment than the House. The Senate voted enough funds to support an average Army of 400,000 men, and allowed the Air Service $54,400,000.[30] After three attempts to resolve their differences in conference, the House and Senate finally agreed to provide for an average Army of 325,000 and to allow the Air Service $25,000,000.[31] The appropriations bill boded ill for the hopes of all who wished to see a significantly stronger Army established after the war. There apparently was strong opposition to a peacetime Army larger than that authorized by the National Defense Act of 1916. From the perspective of the Air Service, the reduced appropriations forced a choice between using the funds to maintain a large force or to purchase much needed new aircraft. More important, perhaps, reduced appropriations for the Army as a whole forced the General Staff to choose between allocating their funds to the inordinately expensive Air Service or to the less costly traditional branches. There was really never any doubt about how the General Staff would decide that issue. Later that year, General March would tell Congress that while the General Staff recognized the need to develop the Air Service, it did not believe the service should be given special consideration at the expense of reapportioning the other branches.[32] Thus, the appropriations bill seemed to confirm that the only guarantee for a strong postwar Air Service was the creation of an independent air department.

After the House declined action on his initial reorganization proposal, General March took his bill back to the War Department for further refinement prior to the opening of hearings by the new Congress. As March waited, other reorganization proposals surfaced within the Army and were circulated through the General Staff for consideration. Overseas, at AEF headquarters, a group of staff officers formulated their own reorganization scheme. Their plan called for a standing army of only 250,000 regulars, universal military training with a seven month training period, an expanded and permanent General Staff, abolition of the militia bureau and several other War Department bureaus, and absorption of the Marine Corps into the regular Army. General Pershing refused to endorse this plan or to forward it to Washington, but the details soon leaked back to General March. A similar plan was prepared within the War Plans Division of the General Staff by Colonel John McAuley Palmer, who had just returned from France in February 1919. Palmer's proposal called for a standing army of only 165,000 regulars to provide an expeditionary force when needed, to man the foreign garrisons, and to provide training cadres for his universal military training program. This tiny regular force would be supplemented by a large organized reserve force perpetuated by universal military training. Palmer's UMT scheme would require eleven months of initial training for every young man aged nineteen followed by four years of mandatory service in the organized reserve. Palmer circulated his proposal through the General Staff in March 1919,

and it met with almost universal approval. It was vetoed by General March, however, on the grounds that the long mandatory training period and extended service in the reserves constituted compulsory military service and were contrary to the country's democratic traditions. March still insisted that national security could best be guaranteed by a large standing army expandable to double its strength in an emergency. This same reasoning led General March to dismiss a reorganization plan submitted by Major General John F. O'Ryan in June 1919. Like Palmer and the AEF officers, O'Ryan proposed a small regular army and universal military training.[33] The major issues to be resolved during the upcoming reorganization hearings were beginning to crystallize.

All the studies and proposals for Army reorganization which had surfaced since the Armistice came together in the late summer of 1919. On June 17, Representative Julius Kahn (R) of California, the new chairman of the House Committee on Military Affairs, announced his intention to open hearings on Army reorganization early in August. Kahn's counterpart in the Senate, Senator James W. Wadsworth, Jr. (R) of New York, announced late in July the formation of a subcommittee to plan a long-range permanent military policy.[34] Senator Wadsworth convened the first session of the Army reorganization hearings on August 8, 1919, and Represenatative Kahn eventually opened the House hearings on September 3, 1919.[35]

Three bills introduced simultaneously in the House and Senate covering various aspects of the reorganization question served

as the basis for both sets of hearings. The first of these bills, technically co-sponsored by the two committee chairmen, was the War Department's proposal. Although it now incorporated a limited universal military training program, this bill was essentially identical to the one General March had submitted to the 65th Congress in January.[36] The second of the three bills was co-sponsored by Senator George E. Chamberlain (D) of Oregon and Representative Kahn. The Kahn-Chamberlain bill would create an extensive Army and Navy reserve system sustained by universal military training that could simply be added on to the military structure established by the National Defense Act of 1916.[37] The third bill being considered was more specialized than the previous two. Sponsored by Senator Harry S. New and Representative Charles F. Curry (D) of California, this bill called for the creation of a Department of Aeronautics co-equal with the War, Navy, and Commerce Departments.[38]

Although Representative Curry's version of the bill was more detailed than Senator New's, both bills were essentially an attempt to enact the program recommended by the American Aviation Mission. The proposed aeronautics department would control every aspect of aviation for all government departments, including the Army, Navy, and Post Office, and would also be charged with promoting the development of commercial aviation and the science of aeronautics in general. In addition to agencies for research and development, control of civil and commercial aviation, and regulation of aerial navigation, the department would include a United States Air Force. Incorporating

the current aviation branches of the Army, Navy, and Marine Corps, the Air Force would procure all military aviation equipment and train all military aviation personnel. Air force units assigned to fill the aerial requirements of the Army, Navy, or Marine Corps would be composed of officers from those branches as well as officers permanently commissioned in the Air Force. Units thus assigned would, however, pass under the command and discipline of the branch to which they were assigned. Remaining Air Force units would be centrally controlled by the Secretary of Aeronautics acting through the Air Force commander and his subordinates.[39]

Hearings in both Houses began with Secretary Baker, General March, and top Army officers testifying about the proper postwar organization for the Army in general and the postwar needs of their own branches in particular. Opposition to separating the Air Service from the Army developed quickly and included Secretary Baker, General March, Major General William G. Haan, Director of the War Plans Division, Lieutenant General Robert L. Bullard, former commander of the Second Army, AEF, General James W. McAndrew, recent Chief of Staff for General Pershing, and Major General Frank McIntyre, executive assistant to the Chief of Staff, to name only a few.[40] The most common argument against a separate Air Service was that military aviation was strictly an auxiliary to Army and Navy operations and thus belonged completely under Army and Navy control. Since aerial operations required the highest degree of coordination between land and air

forces, it was absolutely essential that Army commanders have total control over the training, equipping, and operations of the air forces.[41] Secretary Baker also raised two interesting secondary arguments against a consolidated aeronautics department. First, he asserted that centralization of all aviation experimental work would breed standardization and stifle innovation. This would be a serious mistake for a science as new and ripe with potential as aeronautics. Second, simply consolidating all aviation activities in a separate department would not guarantee development of a substantial commercial aviation industry. Only the size of future appropriations could determine how much stimulation was given to the civilian sector. Once granted, the appropriations could be apportioned as easily by an Army bureau as by a separate aeronautical department.[42]

When the New and Curry bills were introduced in Congress, there was consternation in the Navy Department. Acting Secretary of the Navy Franklin D. Roosevelt quickly requested and received permission to testify at the Senate hearings.[43] When he appeared before the committee on September 12, Roosevelt told the Senators that "not only the Naval Department officially but the entire naval service is absolutely opposed to the creation of another separate branch of national defense."[44] The requirements of naval aviation were too specialized to be entrusted to the control of another department. Naval aviators had to be from the Navy, have Navy training, have fleet experience, and be in

close touch with the development of naval tactics. The Navy had no objection to the creation of a government agency to promote and regulate commercial aviation; all the Navy asked was to be allowed to develop its own aviation branch undisturbed.[45]

An independent aeronautical department was not without its supporters, but they carried far less weight than their opponents. The two most prominent regular Army officers favoring a separate consolidated air department were Major General Leonard Wood, a former Chief of Staff, and Brigadier General George O. Squier, the Chief Signal Officer. Both these men maintained that aerial operations were already equal in importance to land and sea operations. Furthermore, they argued that a single agency was needed to coordinate government promotion of commercial aviation. General Squier supported the proposal for a completely independent aeronautics department, and General Wood advocated consolidating the government's air activities within an independent bureau of the Commerce Department.[46] Another strong endorsement for an independent air department came from Assistant Secretary of War Benedict Crowell who appeared before both committees and restated the findings and recommendations of the American Aviation Mission.[47] Outside the Army, the strongest support for an aviation department came from aircraft manufacturers. The manufacturers stressed that until a strong civilian market developed, the aircraft industry could not survive without government support. And adequate government support could not be attained without the degree of coordination that could only

come from consolidating the government's aviation programs under a single authority.[48] Acting as a counter to the arguments of the manufacturers, however, was the testimony of Howard Coffin and John D. Ryan, the two top civilian aviation administrators during the war. While admitting the need for coordination, Ryan and Coffin were both unsure about the wisdom of separating aviation from the Army and Navy.[49]

Among Air Service officers there was near unanimous support for separating the Air Service from the Army. There was, however, one serious defection at the top. General Menoher, the career infantryman and former commander of the Rainbow Division in France who was now Director of Air Service, was unalterably opposed to separating the Air Service from the Army. True to his background, Menoher asserted that infantry was the backbone of the Army and that all the other branches existed merely to support the infantry. Menoher subscribed to the theory that no independent air force could ever be the determing factor in the defeat of any nation. He did, however, have two objections to the War Department's reorganization bill. First, he advocated a significantly stronger Air Service, 41,000 officers and men, than that proposed by the War Department. Second, he objected strongly to staffing the Air Service by the detail system. Allowing the Air Service its own permanent commissioned personnel would give it greater status and influence within the Army and would go a long way toward defusing the hostility of the younger aviation officers toward the General Staff and other senior Army officers.

Menoher advocated creation of a bureau within the Commerce Department to promote and regulate civil and commercial aviation. The head of this bureau and the chiefs of the Army and Navy air services could then coordinate appropriation requests, aircraft production and supply for their respective departments.[50]

General Billy Mitchell, the much acclaimed former commander of the AEF's combat aviation forces who was currently serving as Chief, Training and Operations Group for the Air Service, disagreed with Menoher.[51] According to Mitchell, an independent air force was essential. He pointed out the inefficient operation of the current Air Service; armament was provided by the Ordnance Department, communications by the Signal Corps, anti-aircraft defenses by the Field Artillery, searchlights by the Engineers, personnel by every branch, and only the planes and engines by the Air Service. Separating the Air Service from the Army would not handicap the Army either, since the only aircraft which the Army needed permanently attached were observation planes for reconnaissance and artillery spotting. The great majority of the country's air forces should be devoted to defeating the enemy's air forces, attacking his land and sea forces and destroying his support elements. And these operations could be controlled most effectively and most knowledgeably under the centralized control of an independent air command. Mitchell criticized the lack of management over aviation forces exhibited by senior Army officers, and accused them of basing their decisions on past performance rather than future potential.[52] Major Benjamin

Foulois agreed with Mitchell and was even more outspoken in his criticism of the Army's management of aviation. Based on his experience in Army aviation since its birth in 1908, Foulois stated unequivocably that the "War Department had earned no right or title to claim further control over aviation or the aircraft industry of the United States."[53] Mitchell and Foulois also agreed that if it was forced to remain attached to the Army, the Air Service must be relieved of the onerous effects of the detail system. It was absolutely vital to allow the service to develop a permanent core of professional aviators.

In October 1919, the pace of the reorganization campaign quickened, and the first faint outlines of a solution began to appear. Two critical witnesses testified during October. On October 9, Colonel John McAuley Palmer appeared before the Senate committee and explained his concept of a large citizen reserve army sustained by universal military training and supporting a regular force of only 280,000 men. The committee liked Palmer's ideas so well that it discarded the War Department's reorganization plan and assigned Palmer the task of drafting a new bill.[54] The Senate's decision to adopt Palmer's concept as the basis for the reorganized Army had no bearing on the question of a separate air department. It did, however, have serious implications for an Air Service that remained attached to the Army. In an Army of only 280,000 men, the Air Service would have to be considerably smaller than what had been proposed for an army of 509,000.

On October 31, the House and Senate committees met in joint session to receive testimony from the second crucial witness,

General John J. Pershing, who had only recently returned from France. Pershing's invaluable service as commander of the AEF had brought him enormous prestige, and his testimony would carry tremendous influence. With respect to the Army in general, Pershing clearly sided with the ideas of Colonel Palmer, favoring universal military training, a large organized reserve, and a standing army of only 250,000 to 300,000 men.[55] With respect to the Air Service in particular, however, his testimony was somewhat ambiguous and difficult to interpret. Early during his testimony, Pershing stated that "if Congress is of the opinion that general aviation should be encouraged, as I am, then the appropriation for commercial, naval, and military aviation might very well be included under one head ...."[56] This seemed to be approval for a consolidated air department. Later, Representative Kahn asked Pershind directly if he favored one head for a unified air service made up of Army, Navy, and civilian departments. The General answered yes, "in so far as concerns procurement." He went on to explain that his idea was for the Army and Navy to retain sufficient aviation personnel and equipment to train their own fliers and conduct operations with the troops. In addition there should be a small aeronautics branch within one of the existing executive departments to procure aviation equipment for all government agencies and to conduct scientific studies. This branch along with the Army and Navy air services would be subject to the authority of one head for the purpose of procurement and appropriations. Pershing then

pointed out that those who claimed war could be won by air power alone were wrong. Operations during the recent war demonstrated that military aviation was only a valuable auxiliary similar to the artillery.[57] Despite the qualifications Pershing attached to his concept of a centralized procurement agency for aviation, his statements were misinterpreted. Both The Army and Navy Journal and The New York Times summarized his testimony as favoring a completely independent and consolidated air department.[58]

A few days after Pershing completed his testimony on November 5, the House committee announced that it too had discarded the War Department's reorganization plan and would prepare its own bill centering around a regular force of approximately 280,000 men.[59] After this announcement there was a lull in public activity on Army reorganization as both committees prepared their legislative proposals. Debate on an independent aeronautics department, however, continued to build rapidly toward a climax. On October 9, Representative Curry introduced an even more detailed version of his bill for a department of aeronautics. Senator New followed suit by introducing an almost identical bill in the Senate on October 30. Although the new bills were considerably more detailed than the original proposals and incorporated some minor revisions suggested by two months of testimony, neither materially changed any of the basic provisions of the earlier schemes.[60]

It did not take the War Department long to attack the new air department bills. On October 31, the department sent the

House and Senate committees copies of a report just completed by a board of general officers convened in August to study the initial New and Curry proposals. General Menoher chaired this board, and the other members were General Haan, Major General William J. Snow, Chief of Field Artillery, and Major General Frank W. Coe, Chief of Coast Artillery. Though formed to study aviation legislation, no flying officers served on the board; General Menoher, while Director of the Air Service, was a career infantryman and not a qualified aviator. The Menoher Board concurred with the findings of the American Aviation Mission on the need to stimulate commercial aviation in order to build an aircraft production industry sufficient for wartime needs. In light of this, the board recommended creation of a single government agency to procure all government aircraft, conduct developmental work and regulate air navigation. At the same time, however , the Menoher Board concurred with the Dickman Board's findings that air forces acting independently could not achieve a military decision over land or sea forces. Aerial forces were an integral combat branch of the Army and must operate in close coordination with the other branches; therefore, to ensure successful operations, air forces "must be controlled in the same way, understand the same discipline, and act in accordance with the Army command ...." In light of these findings, the board recommended that no military air force independent of the Army or Navy be created and that the Army and Navy air services remain integral parts of their respective services.[61]

Less than two weeks after the Menoher Board's report was released, the War Department's Annual Report for 1918 was published, and it contained further reinforcement for the Menoher Board's findings. In his annual report, Secretary Baker restated his own opposition to a separate air department. Baker declared that the time had not yet come to establish an aviation department because there were at present no prospects for the independent effectiveness of aircraft as an instrument of war. It was " ... plainly better," Baker continued, "for the military air service to be military, to have its soldiers and officers trained in the same school of discipline and trained together as often as possible with the men of the land army."[62]

Despite War Department opposition, there was strong support for the New bill in the Senate committee. On December 8, the committee voted nine to two to support the bill favorably to the full Senate. In its report to the Senate, the committee declared its believ that the future of aeronautics in the United States could be assured only by making it the business of some central authority. Aviation was still in its infancy with a future potential of unforseen dimensions. Already, however, it had developed beyond the point of being a mere auxiliary to the Army, and future development would be carried out more rapidly, efficiently and economically under a central authority.[63]

In the House committee the idea of an independent air department was generating considerably less enthusiasm. A special subcommittee on aviation under Representative LaGuardia was formed early in December to study the question. For two weeks

the subcommittee took testimony from a number of Air Service officers and a few civilian supporters of the Air Service. All of the witnesses were strongly in favor of a separate consolidated air department.[64] The Army and Navy Journal was sharply critical of the hearings, however, as being too biased toward justifying an aviation department. The Journal pointed out that the absence of any witnesses other than fliers and production experts made the hearings suspect, especially since the Secretaries of War and Navy, the General Staff of the Army, the General Board of the Navy, General Pershing, General March, Admiral Sims (Chief of Naval Operations), the Director of the Army Air Service, the Director of Naval Aviation, and the great majority of Army and Navy officers were opposed to a separate department ahd had not been called as witnesses.[65] On December 17, the House Committee voted to terminate the hearings and postpone consideration of any bills calling for the unification of the air service. This practical defeat of a separate air department was attributed to the general resistance of the full House to any action on the aviation question at that time.[66] Further action on the air department bill would have to come from the Senate.

As supporters of the New bill waited their opportunity to bring it onto the Senate floor for debate, the War Department mounted two final attacks against the proposed air department. Early in January 1920, the department released a summary of its position prepared by General Haan and Colonel Edgar S. Gorrell. Containing no new information, this summary simply restated all

of the department's objections from the Dickman Board to the Menoher Board. It had added weight, however, because it was co-authored by Colonel Gorrell, a military aviator since 1915 with a masters degree in aeronautical engineering who had risen to become Assistant Chief of Staff of the Air Service, AEF and a full colonel at the age of twenty-seven.[67] Equally as important as the Haan-Gorrell report was a January 12 letter from Pershing to General Menoher. Alarmed at how Pershing's testimony on the postwar organization for the Air Service was being interpreted, Menoher wrote the General and asked for specific clarification of his views. In his January 12 reply, Pershing made it absolutely clear that while he approved and urged coordination between the various government departments in the matter of aircraft production, he did not sanction creation of an independent air force. He repeated his conviction that air forces could not alone win a decision against land forces. Air forces were an integral part of the Army which must be trained in conjunction with the ground forces and must be controlled by the ground commander during operations.[68]

On January 28, Senator New's air department bill finally came up for debate on the Senate floor. In his opening remarks, New tried to build a good case for a separate air department. By the end of the war, he said, the U. S. had finally established an aviation industry with a production capacity of 11,000 to 12,000 planes a year. There were 22 factories employing 300,000 men, and the Army alone contained 15,000 trained fliers. But little more than a year later, ninety-five per cent of the

aircraft industry had been liquidated and only 900 fliers remained in the Air Service. The only aircraft the Air Service currently possessed were obsolescent DH-4's. If the United States found itself suddenly at war again, New Argued, it would have to purchase all of its aircraft abroad! The current diffusion of authority for the various aviation programs was even causing inefficiencies in Congress. There were four different committees involved in aeronautical matters: Military Affairs, Naval Arrairs, Post Offices and Post Roads, and Appropriations. Finally, New said, establishing a separate air department would also be economical. The Army and Navy combined had requested $160,000,000 for their aviation programs for the coming year. A consolidated air department could provide the same services for only $98,000,000.[69]

In the debate that spread over the next three days, the bill met sustained opposition from a number of Senators. Senator William H. King (D) of Utah objected to the cost a new department would entail. The American people were tired of high taxes and objected to large military appropriations in peacetime. It was time to start cutting government expenses to the bone, and the place to start was the War Department, site of indefensible extravagence.[70] Senator John Wharp Williams (D) of Mississippi was concerned that creation of a unified air service, with a director who could commandeer Army and Navy aviation units at his discretion, would breed confusion rather than coordination. Army and Navy commanders would be unable to plan effective use of their air forces when faced with the constant

threat of having their forces appropriated by the air department. Senator Reed Smoot (R) of Utah warned that even if the current estimated costs of an air department did not seem excessive, costs would mushroom in future years as the new department tried to justify its existence with expensive programs. Senator Peter G. Gerry (D) of Rhode Island, a member of the Naval Affairs Committee, carried the fight against consolidation on behalf of the Navy.[71] Senator Gilbert M. Hitchcock (D) of Nebraska declared that nothing but confusion would result from having three departments connected with war. Senator William E. Borah (R) of Idaho sided with Senators King and Smoot in decrying the increase of the military establishment at a time of supposed 'universal peace.' In the end, the opposition proved too strong. The bill was never defeated, but on January 31, Senator New, observing how opinion was running, agreed to return the bill to committee for further study.[72] The Senate floor debate on the New bill was the high water mark of the campaign for a separate air department. Once back in committee, the bill died a quiet death. After January 31, proponents of a separate department had to content themselves with whatever provisions were made for the Air Service in the Army reorganization bill.

For the supporters of an independent air department, the completion of the Army reorganization bill was anti-climactic. Early in January 1920, the subcommittee working on Army reorganization in the House and Senate had completed drafts of their proposed

legislation. Although both drafts called for a regular Army of approximately 280,000 men and 18,000 officers, there were important differences between the two proposals. The Senate bill was written as an entirely new piece of legislation, whereas the House decided simply to amend the National Defense Act of 1916. The Senate bill provided for universal military training and a National Guard organized under the army clause of the Constitution. The House version did not mention universal military training and left the National Guard organized under the militia clause. Provisions for the Air Service in the two bills also differed, with the House allotting 1,515 officers and 16,000 enlisted men to the Air Service and the Senate providing for 1,551 officers and 21,000 men. On the basic question of the status of the Air Service, however, the two chambers agreed; the Air Service (Air Corps in the Senate version) was to be a separate combat branch of the Army.[73]

It took Congress five months from the time the subcommittee drafts were completed to finally enact the reorganization bill. As the two bills slowly moved from the subcommittees to consideration by the full committees and then on through the House and Senate, there was extensive debate but few substantive changes.[74] In the Senate, compulsory universal military training was dropped in favor of a voluntary training program.[75] With respect to the Air Service, both houses inserted an amendment limiting the number of non-flying officers in the Air Service to ten per cent of the total.[76] The House finally passed its bill March 20, 1920, and quickly forwarded it to the Senate. Rather

than take up the House bill immediately, however, the Senate elected to complete action on its own version of the bill, which it did on April 24. Now it would be up to the conference committee to resolve the differences. Prior to the first conference meeting, the Senate agreed to accept the House's proposals regarding the size of the various Army branches, including the Air Service.[77] That left only two major issues to be resolved in conference, the status of the National Guard and the voluntary training program. After a month of negotiations, the Senate conceded both issues. The National Guard would remain organized under the militia clause and the voluntary training program was dropped altogether. With these obstacles out of the way, what was essentially the House bill quickly passed both chambers and was signed into law on June 4, 1920.[78]

As finally passed, the Army Reorganization Act of 1920 was a disappointment to all who had hoped for a radical revision of the Army's structure. When advising the President to sign the bill, Secretary Baker admitted that the bill as finally passed was "far less excellent" than what had been proposed by the Senate committee. Unfortunately, Baker continued, there were many lessons that had not been learned from the war, and, although the public interest justified the President's signning the bill, it was not as effective a reorganization as the country needed.[79] Although Baker would not have thought so, his statements were certainly applicable to the bill's provisions for the Air Service. Essentially the bill perpetuated the organization that

had been extemporized during the war. The Air Service was established as a separate combat branch of the Army. Maximum strength for the Air Service was set at 1,516 officers and 16,000 enlisted men. The Chief of the Air Service was required to be a flying officer, and all officers above the rank of captain were to be permanently commissioned in the Air Service. Below the rank of major, officers could either be detailed or, by their own consent, permanently commissioned in the Air Service.[80] This Air Service was certainly far superior to what had been provided by the National Defense Act of 1916. But it was also far short of the independent air department with its own Air Force of 4,000 officers and 40,000 men proposed by New and Curry. Retaining the Air Service as an auxiliary branch of the Army prevented the United States from taking advantage of the opportunity offered by the tremendous advances in aviation achieved during the war.

While Congress was putting the finishing touches on the reorganization bill during the spring of 1920, it was also completing action on the Army appropriation bill for 1921. The action taken on Air Service appropriations gave further definition to the future of military aviation in the United States. When the House committee opened the appropriations hearings, the War Department's request for an Air Service of only 15,000 men and 1,300 officers was $60,000,000, including $24,000,000 for new aircraft.[81] The committee had already turned down a special appropriations request in January 1920 for $15,000,000 to purchase new aircraft, and it stayed true to form by cutting

this regular appropriation request to $27,000,000.[82] Although the Senate tried to compromise at $40,000,000, only $33,000,000 was finally appropriated.[83] Apparently, the relatively low force level established for the Air Service by the 1920 Army Reorganization Act was going to be practically set even lower because Congress would not appropriate sufficient funds.

Agitation for an independent air department did not stop with the passage of the 1920 Army Reorganization Act. The period from 1921 to 1925 was the heyday of the flamboyant Billy Mitchell and his abrasive one-man campaign to win for the Air Service the status and recognition it had been denied in 1920. But even though continued pressure prompted the formation of two prominent investigative boards and eventually forced the passage of new aviation legislation in 1926, the end results proved no better than they had in 1920. Acting on the recommendations of the Morrow Board, Congress passed the Air Corps Act and Air Commerce Act in mie-1926. By the Air Corps Act, the Air Service was given more prestige by a change in name and the creation of an Assistant Secretary of War for Aeronautics. The status of the Air Corps within the War Department remained virtually unchanged, however. The Air Commerce Act finally created a Bureau of Aeronautics within the Commerce Department to control civil and commercial aviation and regulate aerial navigation.[84] Thus the outcome of Mitchell's self-destructive campaign was essentially nothing more than the perpetuation of the 1920 solution to the military aviation question: a solution that continued in force through World War II.[85]

Failure to provide the necessary institutions and means for dynamic exploitation of aviation after the war cost the Air Service dearly. After 1920 Congress consistently refused to appropriate sufficient funds to maintain the Air Service at the force levels specified in the 1920 reorganization act. By 1923 Congress provided funds for only 1,031 officers and 8,764 enlisted men. Meagre appropriations also prevented the replacement of worn and outdated aviation equipment. Forced to fly dangerously obsolete machines, Army fliers suffered 330 crashes and sixty-nine fatalities in the twelve-month period from mid-summer 1920 to midsummer 1921. Another graphic demonstration of the Air Service's weakness occurred in 1934 when the government asked the Air Service to carry the mail temporarily. Army pilots were plagued with bad weather and hampered by inadequate training, poor equipment, and inexperience with the techniques of blind flying and radio-beam navigation. Ten pilots were killed during just the first three weeks of operations.[86] Although the United States was given ample warning to upgrade the Air Corps prior to World War II, the Corps' pitiful condition during most of the interwar years could have had disastrous consequences had the United States been thrust suddenly into war. In January 1938, when President Franklin Roosevelt urged a vigorous expansion program for the Air Corps, the existing force was only 1,700 planes of all types, 1,600 officers and 18,000 enlisted men. In comparison, the German Luftwaffe possessed at least 4,000 first line combat planes alone.[87] With time the Air Corps was able to prepare adequately for the war, but the Air Corps and

the country would have paid dearly if the United States had been forced to go to war in 1938.

It is difficult not to believe that an independent air department consolidating all of the government's aeronautical programs would have advanced the development of aviation much farther during the interwar years than actually occurred. With all research, design, production, procurement and supply subordinated to a single head, duplicated efforts could have been eliminated, and the few dollars that were available for aviation would have been more productive. Similarly, consolidation of all the government's aviation agencies in one department would have permitted the elimination of at least some duplicated facilities, and released even more money for personnel or new equipment. Most important, perhaps, creation of an independent aeronautics department would have provided aviation with determined and powerful lobby. This at least would have precluded the apathy which so often characterized the Army's and Navy's management of aviation after the war.

In 1919 aeronautics was a new science with an almost unlimited future, and Congress had the rare opportunity to establish an organization which could promote and manage the development of this new science from the beginning. The war had made the prewar Aviation Section obsolete; some form of reorganization was mandatory. The lessons of the war were fresh, there was a strong movement to establish an independent air department, and several workable plans for an air department had been offered. But the

opportunity was allowed to pass untaken or unseen. Caution, tradition, anti-militarism, and the desire for economy all took their toll on the strength of the drive for an air department. It is easy to understand why congressmen failed to be convinced by the arguments of the air department advocates. The accomplishments of the future were hardly discernible in the meagre capabilities of aviation at the end of the war. It was easy and eminently reasonable to dismiss those preaching the necessity of an independent air department as overenthusiastic visionaries. Still, the country would have benefitted more had the voices of caution and reason been ignored and the opportunity grasped.

NOTES:

1. Russell F. Weigley, History of the United States Army, 352.

2. The concept of universal military training could be implemented in a variety of ways. A typical scheme would operate like this. All young men would be required to register with the government on their nineteenth birthday. Then, sometime during the ensuing three years, each would report for six months of basic military training. Afterward, the men would be assigned to an active reserve unit for five years where they would atend periodic meetings and a two week refresher training course each year. At the end of the five year period, the men would be reassigned to an inactive reserve unit which released them from any obligation for periodic meetings or annual refresher training. In the event of a war emergency, the regular army would be supplemented by the active reserves first, and then, if needed, the inactive reserves would be called up by age groups.

3. Peyton C. March, The Nation at War, 330-333; Edward M. Coffman, The Hilt of the Sword: The Career of Peyton C. March, 174-177.

4. R. Earl McClendon, The Question of Autonomy for the United States Air Arm, I, 21-23.

5. Herbert Malloy Mason, The United States Air Force: A Turbulent History, 74-75. Within a year aircraft production would be at a standstill and the Air Service would be reduced from approximately 200,000 men to a mere 10,000.

6. "Manoher New Air Chief," The New York Times, December 22, 1918, 3.

7. "Air Service Cost Over a Billion," The New York Times, April 6, 1919, 7; "Sherman Made Chief of Air Training," The New York Times, March 20, 1919, 6.

8. National Advisory Committee for Aeronautics, Fourth Annual Report, 1918, 51; Congressional Record, 65th Congress, 3rd Session (1918-1919), Vol. 57, 24.

9. "Approves Air Regulation," The New York Times, February 27, 1919, 24.

10. "U. S. Army to have 5,100 Airplanes," The New York Times, April 3, 1919, 13. Of the 5,100 aircraft proposed for the Air Service, only 1,700 would be in active service. The remaining 3,400 would be in reserve to provide replacements as the service planes went out of commission.

11. "Active Aggression Policy for Army Air Service," The New York Times, April 6, 1919, IV, 7; "Aerial Service Needs Many Landing Fields," The New York Times, May 11, 1919, IV, 12.

12. "What to Become of Naval Aviation," The Army and Navy Journal, LVI (1919), 788; "Navy Against Aero Department," The Army and Navy Journal, LVI (1919), 929.

13. U. S. Congress, House of Representatives, Committee on Military Affairs, Hearings on a Department of Defense and Unification of the Air Service, 69th Congress, 1st Session (1925-1926), 917-953 (cited hereafter as House of Representatives, Department of Defense Hearings). The report of the Dickman Board is reprinted in full in the text of these hearings, beginning at page 917.

14. Ibid., 917, 994 and 676-678.

15. Ibid., 20-35. The report of the American Aviation Mission is reprinted in full in the text of the hearings, beginning at page 20. Alfred F. Hurley, Billy Mitchell, 48-49.

16. House of Representatives, Department of Defense Hearings, 22-28.

17. Ibid., 24-25, 32.

18. Hurley, Billy Mitchell, 48-49.

19. House of Representatives, Department of Defense Hearings, 34-35. The full text of Baker's letter is reprinted beginning at page 34.

20. U. S. Congress, House of Representatives, Committee on Military Affairs, Hearings on the Army Appropriation Bill, 1920, 65th Congress, 3rd Session (1918-1919), 1-22 and 366-70 (cited hereafter as House of Representatives, 1920 Army Appropriations Hearings).

21. Ibid., 36; The Statutes at Large of the United States of America, XXXIX, 166-217. The actual peacetime strength authorized by the 1916 National Defense Act (sometimes referred to as the Hay-Chamberlain Bill) was 175,000 enlisted men. With officers and various auxiliary units included, however, the actual strength totalled approximately 230,000. U. S. Congress, Senate, Hearings on the Army Appropriation Bill, 1920, 66th Congress, 1st Session (1919), 36.

22. House of Representatives, 1920 Army Appropriations Hearings, 366-419. Air Service planners were advocating a 100 per cent replacement policy for aircraft. Of the 2,006 aircraft with which the Air Service was to be equipped, 1,003 would be on active service and the other 1,003 would be on reserve.

23. "Army Appropriations Bill," The Army and Navy Journal, LVI (1919), 858; Congressional Record, 65th Congress, 3rd Session (1918-1919), Vol. 57, 3733-3735.

24. It must be remembered that while an armistice was in effect and the war to all practical purposes was over, the United States technically remained at war. That is why the phrase "for the present war and one year after" was used to define the existence of the proposed aeronautics department.

25. "Army Appropriations in the Senate," The Army and Navy Journal, LVI (1919), 926-927.

26. Frederic L. Paxson, American Democracy and the World War: America at War, 1917-1918, 443-447; Martin L. Fausold, James W. Wadsworth, Jr.: The Gentleman from New York, 113-114.

27. U. S. Congress, House of Representatives, Committee on Military Affairs, Hearings on the Army Appropriation Bill for 1920, 66th Congress, 1st Session (1919), 5-9 and 485-496.

28. U. S. Congress, House of Representatives, Committee on Military Affairs, Report to Accompany H. R. 5227, Army Appropriations Bill, 1920, (House Report #23), 66th Congress, 1st Session (1919), 7: Congressional Record, 66th Congress, 1st Session (1919), Vol. 58, 877-878.

29. Congressional Record, 66th Congress, 1st Session (1919) Vol. 58, 1594 and 877-878.

30. U. S. Congress, Senate, Committee on Military Affairs, Report to Accompany H. R. 5227, Army Appropriation Bill, 1920 (Senate Report #24), 66th Congress, 1st Session (1919), 1; "Senate Passes Army Bill," The Army and Navy Journal, LVI (1919) 1510.

31. Statutes at Large, XLI, 105-131; "The Army Appropriations," The Army and Navy Journal, LVI (1919), 1578; Congressional Record, 66th Congress, 1st Session (1919), Vol. 58, 1594.

32. U. S. Congress, Senate Committee on Military Affairs, Hearings on the Reorganization of the Army, 66th Congress, 1st and 2nd Sessions (1919-1920), 93 (cited hereafter as Senate, Reorganization Hearings).

33. Coffman, Hilt of the Sword, 177-182.

34. "Army Reorganization Hearings Plans," The Army and Navy Journal, LVI (1919), 1462; Fausold, James W. Wadsworth, Jr., 115-116.

35. Reorganization Hearings, 1; U. S. Congress, House of Representatives, Committee on Military Affairs, Hearings on the Reorganization of the Army, 66th Congress, 1st and 2nd Sessions (1919-1920), 1 (cited hereafter as House of Representatives, Reorganization Hearings).

36. "An Army Reorganization Bill," The Army and Navy Journal, LVI (1919), 1695; Coffman, Hilt of the Sword, 197-198; Senate, Reorganization Hearings, 16-27.

37. Congressional Record, 66th Congress, 1st Session (1919), Vol. 58, 3390 and 3464. Senate, Reorganization Hearings, 8-16.

38. Congressional Record, 66th Congress, 1st Session (1919), Vol. 58, 3292 and 3390; Senate, Reorganization Hearings, 3-7; "Bill Introduced to Establish a Department of Aeronautics," Aerial Age Weekly, IX (1919), 1003-1030. The full texts of the hearings beginning at page 3. The Curry bill is reprinted in Aerial Age Weekly, noted above.

39. Ibid.

40. Senate, Reorganization Hearings, March's testimony regarding the Air Service is presented at pages 90-109, Baker's at 181-209, Bullard's at 122-123, McAndrew's at 137-139 and McIntyre's at 1363-1366. House of Representatives, Reorganization Hearings, March's testimony in the House regarding the Air Service is presented at pages 181-187 and Haan's at 355-359.

41. Ibid.

42. Senate, Reorganization Hearings, 181-186.

43. "Navy Asks to be Heard," The Army and Navy Journal, LVII (1919), 20.

44. Senate, Reorganization Hearings, 727. The Navy had been steadily opposed to all efforts at consolidation. In fact, the Navy representative on the American Aviation Mission signed the final report only on condition. The recommendation for an aeronautical department was agreed to providing that the Navy retained full control over all aspects of naval aviation except procurement, and providing that all personnel engaged in naval air operations be exclusively Navy or Marine Corps personnel.

45. Ibid., 727-745.

46. Senate, Reorganization Hearings, 620-642 and 1155-1156.

47. Ibid., 1299-1317; House of Representatives, Reorganization Hearings, 1801-1835.

48. Senate, Reorganization Hearings. Appearing before the Senate committee were Clement M. Keyes, Vice-President of Curtiss Aeroplane and Motor Corporation (pp. 477-493), F. D. Diffin, President of United Aircraft Engineering Corporation (pp. 715-721), and George Harrison Houston, President of the Wright-Martin Aircraft Corporation (pp. 984-987).

49. Ibid., 990-1008 (Coffin) and 1012-1022 (Ryan).

50. Ibid., 265-296.

51. Although Mitchell was technically only one of several executive assistants heading staff bureaus under Menoher, his position as chief of operations combined with his overseas exploits made him the generally acknowledged number two man in the Air Service. Hurley, Billy Mitchell, 41.

52. House of Representatives, Reorganization Hearings, 899-973; Senate, Reorganization Hearings, 298-313. Although Mitchell was critical of Army management and did advocate establishment of an independent air force, his remarks were mild compared to the stridency he adopted in later years. An excellent discussion of the development of Mitchell's crusade for airpower after 1920 is presented in Alfred F. Hurley, Billy Mitchell: Crusader for Airpower.

53. Senate, Reorganization Hearings, 1260. Foulois' full testimony is presented at pages 1256-1285 of the Senate hearings and at pages 924-973 of the House hearings.

54. Ibid., 1173-1232; Fausold, James W. Wadsworth, Jr., 117-119.

55. Senate, Reorganization Hearings, 1572-1595.

56. Ibid., 1573.

57. Ibid., 1608-1609 and 1682-1686.

58. "Army Reorganization Hearings," The Army and Navy Journal, LVII (1919), 294-295; "American Aviation," The New York Times, November 16, 1919, III, 1.

59. "Army Reorganization Postponed," The Army and Navy Journal, LVII (1919), 337.

60. Congressional Record, 66th Congress, 1st Session (1919), Vol. 58, 6582 and 7738; "Senator New's Revised Air Force Bill," The Army and Navy Journal, LVII (1919), 310. This article presents the text of Senator New's bill which he declared to be virtually identical to the one prepared by Representative Curry.

61. House of Representatives, Department of Defense Hearings, 42-53. The full text of the Menoher Board's report is reprinted in these hearings beginning at page 42.

62. "Tells New Plan for Training Army," The New York Times, December 1, 1919, 17; "Mr. Baker's Objections," The New York Times, December 3, 1919, 14; "Secretary of War's Annual Report," The Army and Navy Journal, LVII (1919), 414 and 438.

63. U. S. Congress, Senate, Committee on Military Affairs, Report to Accompany S. 3348, To Create a Department of Aeronautics (Senate Report #325), 66th Congress, 2nd Session (1919-1920), 1-3.

64. U. S. Congress, House of Representatives, Committee on Military Affairs, Hearings on a United Air Service, 66th Congress, 2nd Session (1919-1920), 1-200.

65. "Air Service and the National Defense," The Army and Navy Journal, LVII (1919), 489.

66. "Congressional Notes," The Army and Navy Journal, LVII (1919), 489.

67. "Against Separate Air Service," The New York Times, January 11, 1920, III, 6.

68. "Not Apart, Says Pershing," The New York Times, January 31, 1920, 10. A full copy of Pershing's letter is also presented at page 41 of House of Representatives, Department of Defense Hearings.

69. Congressional Record, 66th Congress, 2nd Session (1919-1920). Vol. 59, 2151-2158.

70. Ibid., 2158.

71. Ibid., 2186-2196.

72. Ibid., 2243-2301.

73. "Senate's Army Reorganization Bill," The Army and Navy Journal, LVII (1920), 574; "House Army Reorganization Bill," The Army and Navy Journal, LVII (1920), 575 and 582; "Senate Army Reorganization Bill," The Army and Navy Journal, LVII (1920), 594-596.

74. U. S. Congress, House of Representatives, Committee on Military Affairs, Report to Accompany H. R. 12775, Reorganization of the Army (House Report #680), 66th Congress, 2nd Session (1919-1920), 1-22; U. S. Congress, Senate, Committee on Military Affairs, Report to Accompany S. 3792, Reorganization of the Army (Senate Report #400), 66th Congress, 2nd Session (1919-1920), 1-8. Debate on H. R. 12775 and S. 3792 began March 8 and February 9, respectively.

75. "Senate Adopts Voluntary Training," The Army and Navy Journal, LVII (1920); Congressional Record, 66th Congress, 2nd Session (1919-1920), Vol. 59, 5402.

76. Congressional REcord, 66th Congress, 2nd Session (1919-1920), Vol. 59, 4539-4560 and 5884-5878; "House Passes Reorganization Bill," The Army and Navy Journal, LVII (1920), 651; "Senate Army Bill Completed," The Army and Navy Journal, LVII (1920), 674.

77. Congressional Record, 66th Congress, 2nd Session (1919-1920), Vol. 59, 4674, 5883-5898; "Changes in the Senate Army Bill," The Army and Navy Journal, LVII (1920), 1082.

78. Congressional Record, 66th Congress, 2nd Session (1919-1920), Vol. 59, 5990, 7165-7334, 7844, 7918, 8008 and 8662; Statutes at Large, XLI, 759-787; U. S. Congress, House of Representatives Committee on Military Affairs, Conference Committee Report on H. R. 12775, Reorganization of the Army (House Report #1000), 66th Congress, 2nd Session (1919-1920), 1-10; U. S. Congress, House of Representatives, Committees on Military Affairs, Conference Committee Report on H. R. 12775, Reorganization of the Army (House Report #1049), 66th Congress, 2nd Session (1919-1920), 1.

79. Coffman, Hilt of the Sword, 206.

80. Statutes at Large, XLI, 760-769.

81. U. S. Congress, House of Representatives, Committee on Military Affairs, Hearing on the Army Appropriation Bill for 1921, 66th Congress, 2nd Session (1919-1920), 356-377.

82. U. S. Congress, House of Representatives, Committee on Military Affairs, Hearings on an Appropriation for the Purchase of Airplanes, 66th Congress, 2nd Session (1919-1920), 1-22; Congressional Record, 66th Congress, 2nd Session (1919-1920), Vol. 59, 1643, 7470, and 9734.

83. Congressional Record, 66th Congress, 2nd Session (1919-1920), Vol. 59, 7470; Statutes at Large, XLI, 953-954.

84. Hurley, Billy Mitchell, 66-106; Alvin M. Josephy, ed., The American Heritage History of Flight, 200-203; Wesley Frank Craven and James Lea Cate, eds., The Army Air Forces in World War II, Vol. I, 24-29.

85. Mitchell was court-martialed for insubordination in the fall of 1925 and forced to retire. See Hurley, Billy Mitchell.

86. Josephy, ed., American Heritage History of Flight, 200 and 206.

87. Craven and Cate, eds., Army Air Forces in World War II, Vol. I, 89 and 104-116.

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